

IDENTIFYING FISHING-DEPENDENT COMMUNITIES: DEVELOPMENT AND CONFIRMATION OF A PROTOCOL



Photo by Michael Jepson

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EXECUTIVE SUMMARY

The purpose of this research was to develop a definition of fishing dependent communities and a protocol for identifying such places. Identification of communities in Florida is complicated by the fact that many places are unincorporated and do not have community-level data available for decision-making.

Using a protocol based on central place theory, federal and state fishing permit data and census employment data were aggregated at the zipcode level to sort population centers and their surrounding hinterlands into central places for the entire state of Florida. Zipcode was a good choice for the basic unit of aggregation because it is the only geographic identifier for many forms of commercial and recreational fishing data, it is a relatively small unit of measure, and its boundaries form a service delivery area.

Defining communities by central place fits well with the elements of community identified by Wilkinson (1991). This is because central places are territorially based and people live and meet their day-to-day needs in such places. The inclusion of central place (center and hinterland) ensures that those in hinterlands and more rural places are captured in a reasonably complete local society, one that can provide most basic needs and organize common interests and needs of residents.

To account for the embedded nature of economic linkages in fishing communities, we used regional economic multipliers for employment to estimate the number of jobs that were directly and indirectly related to fishing in each community. Using the dataset we developed for the aggregated communities and through an extensive literature review, we defined dependence as 15% of employment derived from the fishing sector. This threshold of dependence is consistent with research by USDA ERS on other forms of natural resource dependence. We included data on certain commercial fishing sectors and identified five commercially dependent communities in the state of Florida with 1996 data. These were:

1. Steinhatchee
2. Apalachicola
3. Panama City
4. Ochopee/Everglades City
5. Panacea

In addition to the commercially dependent fishing communities, we identified seven communities that were recreationally fishing dependent. However, we do not have complete confidence in our recreational indicators and do not recommend that they be used for anything other than a demonstration of the protocol if better data were available.

Using data from 1994 and 1996, six communities were chosen for rapid assessment and survey research to test if locals agreed on our assessments of their community's fishing dependence and community boundaries. The research confirmed the protocol's results, and the reality of community residents agreed with our results.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
TABLE OF CONTENTS.....	ii
LIST OF TABLES.....	vi
TABLE OF FIGURES.....	xii
Section 1.0: PURPOSE.....	1
1.1 Magnuson-Stevens Act and Description of the Problem.....	1
1.2 Florida Fishing Community Project Objectives	2
Section 2.0: GOAL 1. TO DEFINE AND IDENTIFY FISHING-DEPENDENT COMMUNITIES AND THEIR RESIDENTS.	3
2.1 Objective 1. To develop a concrete and objective definition of fishing-dependent communities that applies to Florida and other states.	3
2.1.1 Literature Review: Defining Community	3
2.1.2 Literature Review: Natural Resource-Dependent Communities	4
2.1.3 Literature Review: Identifying and Defining Natural Resource Dependent Communities	9
2.1.4 Literature Review: The Relevance of Central Place Theory	10
2.2 Initial Definition of Fishing Dependent Communities	10
2.3 Objective 2. To develop a reliable protocol for quantitatively identifying fishing- dependent communities that applies to Florida and other states.....	11
2.4 Methodological Approach	11
2.4.1 Zipcode Aggregation	14
2.4.2 Data Aggregation.....	15
2.4.3 Community Profile and Rapid Assessment	19
2.4.4 Telephone Survey	20
2.5 Project Management	22
Section 3.0: FISHING DEPENDENCE.....	23
3.1 Economic Multipliers and Commercial Fishing Dependency	23
3.2 Recreational Employment and Dependency	25
3.3 Commercial and Recreational Fishing Dependent Communities in Florida.	27
Section 4.0: GOAL 2. TO EMPIRICALLY EVALUATE THE DEFINITION OF FISHING- DEPENDENT COMMUNITIES AND THE IDENTIFYING PROTOCOL.....	31
4.1 Objective 1. To develop a typology that differentiates Florida fishing-dependent communities into categories based on region and economic structure.....	31
5.1 Cedar Key	33
5.1.1 History.....	33
5.1.2 Census Demographics.....	35
5.1.2.1 Age Distribution.....	35
5.1.2.2 Housing Units Information	35
5.1.2.4 Racial Distribution.....	36
5.1.2.5 Educational Attainment	36
5.1.2.6 Industry	36
5.1.2.7 Average Salary.....	39
5.1.3 General and Fishing Employment for 1994 and 1996.....	39
5.1.3.1 Fishing Employment for 1994 and 1996	39
5.1.4 Key Informant Interviews	41

5.1.4.1	Cedar Key Telephone Survey Demographics.....	42
5.1.4.2	Dependency.....	42
5.1.4.3	Community	45
5.1.4.4	Net Ban	48
5.2	Marathon.....	49
5.2.1	History.....	49
5.2.2	Census Demographics.....	50
5.2.2.1	Age Distribution.....	50
5.2.2.2	Housing Units Information	52
5.2.2.3	Racial Distribution.....	52
5.2.2.4	Educational Attainment	52
5.2.2.5	Industry	52
5.2.2.6	Average Salary.....	53
5.2.3	General and Fishing Employment for 1994 and 1996.....	55
5.2.3.1	Fishing Employment by Sector 1994-1996	56
5.2.4	Key Informant Interviews	57
5.2.4.1	Telephone Survey Demographics	58
5.2.4.2	Dependency.....	60
5.2.4.3	Community	61
5.2.4.4	Net Ban	65
5.3	Panacea	66
5.3.1	History.....	66
5.3.2	Census Demographics.....	68
5.3.2.1	Age Distribution.....	68
5.3.2.2	Housing Units Information	69
5.3.2.4	Racial Distribution.....	71
5.3.2.5	Educational Attainment	71
5.3.2.6	Industry	71
5.3.2.7	Average Salary.....	71
5.3.3	General and Fishing Employment for 1994 and 1996.....	72
5.3.3.1	Fishing Employment for 1994 and 1996	75
5.3.4	Key Informant Interviews	76
5.3.4.1	Telephone Survey Demographics	78
5.3.4.2	Dependency.....	80
5.3.4.3	Community	81
5.3.4.4	Net Ban	84
5.4	Apalachicola	86
5.4.1	History.....	86
5.4.2	Census Demographics.....	89
5.4.2.1	Age Distribution.....	89
5.4.2.2	Housing Units	89
5.4.2.3	Racial Distribution.....	89
5.4.2.4	Educational Attainment	89
5.4.2.5	Industry	91
5.4.2.6	Average Salary.....	91
5.4.3	General and Fishing Employment for 1994 and 1996.....	91

5.4.3.1	Fishing Employment by Sector 1994-1996	92
5.4.4	Key Informant Interviews	96
5.4.4.1	Telephone Survey Demographics	98
5.4.4.2	Dependency.....	99
5.4.4.3	Community	101
5.4.4.4	Net Ban	104
5.5	Fernandina Beach (Amelia Island)	105
5.5.1	History.....	105
5.5.2	Census Demographics.....	106
5.5.2.1	Age Distribution.....	106
5.5.2.2	Housing Units Information	107
5.5.2.3	Racial Distribution.....	107
5.5.2.4	Educational Attainment	107
5.5.2.5	Industry	108
5.5.2.6	Average Salary.....	110
5.5.3	General and Fishing Employment for 1994 and 1996.....	110
5.5.3.1	Fishing Employment for 1994 and 1996	111
5.5.4	Key Informant Interviews	112
5.5.4.1	Telephone Survey Demographics	113
5.5.4.2	Dependency.....	115
5.5.4.3	Community	117
5.5.4.4	Net Ban	120
5.6	Oak Hill.....	121
5.6.1	History.....	121
5.6.2	Census Demographics.....	122
5.6.2.1	Age Distribution.....	122
5.6.2.2	Housing Units Information	124
5.6.2.3	Racial Distribution.....	124
5.6.2.4	Educational Attainment	124
5.6.2.5	Industry	124
5.6.2.6	Average Salary.....	125
5.6.3	General and Fishing Employment for 1994 and 1996.....	127
5.6.3.1	Fishing Employment by Sector 1994-1996	127
5.6.4	Key Informant Interviews	129
5.6.4.1	Telephone Survey Demographics	130
5.6.4.2	Dependency.....	132
5.6.4.3	Community	133
5.6.4.4	Net Ban	136
6.0:	CONCLUSIONS.....	137
6.1	Problems with the Protocol.....	137
6.2	The Need for Additional Work.....	138
6.3	Evaluation	139
6.3	Goal Attainment.....	139
6.5	Goal Modification.....	140
6.6	Dissemination of Project Results.....	140
6.6.1	Paper Presentations:	140

6.6.2	Refereed Publications:	141
6.7	Replicability of Protocol	141
7.0:	REFERENCES CITED.....	143
APPENDIX I:	Survey Results Summary.....	147
APPENDIX II:	Aggregated Zipcode Communities Key with Population	164
APPENDIX III:	BEA Definitions and Implan Multipliers.....	186
APPENDIX IV:	Advisory Panel Members.....	189
APPENDIX V:	Summary of MAP Meeting 5/7/99	191
APPENDIX VI:	Fishing Community Interview Schedule	193
APPENDIX VII:	Key Informant Interview Schedule	200

LIST OF TABLES

Table 2.1. Response Rates for the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Fernandina Beach	22
Table 3.1. Ranked Commercial Dependency Index Scores.....	29
Table 3.2. Ranked Recreational Dependency Index Scores	30
Table 4.1. Aggregated Community Identification Variables.....	31
Table 5.1.1. Census Demographic Information for Levy County and Cedar Key.	35
Table 5.1.2. Housing Units for Levy County and Cedar Key.....	36
Table 5.1.3. Racial Distribution and Educational Attainment for Levy County and Cedar Key.	37
Table 5.1.4. Industries in Levy County and Cedar Key.....	38
Table 5.1.5. Employment by Sector within Cedar Key during 1994 and 1996.....	40
Table 5.1.6. Fishing Employment by Sector in Cedar Key during 1994 and 1996.....	40
Table 5.1.7. Demographics for Cedar Key.	43
Table 5.1.8. Employment Demographics for Cedar Key.....	44
Table 5.1.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Cedar Key According to Responses.....	44
Table 5.1.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In Cedar Key	45
Table 5.1.11. The Importance of Fishing to the Local Economy in Cedar Key.....	45
Table 5.1.12. The Existence of Community Indicators in Cedar Key.	46
Table 5.1.13. The Distance Traveled In Order to Satisfy Needs in Cedar Key.....	46
Table 5.1.14. Responses Toward Feeling At Home and Being Involved in Cedar Key	47
Table 5.1.15. Community Problems in Cedar Key.....	47
Table 5.1.16. Important Factors for a Person to be Influential in Cedar Key.....	48
Table 5.1.17. Community Respondents' Knowledge of the 1994 Net Ban In Cedar Key.....	48
Table 5.1.18. The Negative Impact of the 1994 Net Ban In Cedar Key.....	48
Table 5.2.1. Census Demographic Information for Monroe County and Marathon.....	51
Table 5.2.2. Housing Units for Monroe County and Marathon.....	52
Table 5.2.3. Racial Distribution and Educational Attainment for Monroe County and Marathon.	54
Table 5.2.4. Industries in Monroe County and Marathon.....	55
Table 5.2.5. Employment by Sector in Marathon in 1994 and 1996.....	56
Table 5.2.6. Fishing Employment by Sector in Marathon in 1994 and 1996.....	57
Table 5.2.7. Demographics for Marathon.....	59
Table 5.2.8. Employment Demographics for Marathon.....	60
Table 5.2.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Marathon According to Responses.....	60
Table 5.2.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In Marathon.....	61
Table 5.2.11. The Importance of Fishing to the Local Economy in Marathon.....	61
Table 5.2.12. The Existence of Community Indicators in Marathon.....	63
Table 5.2.13. The Distance Travelrd In Order To Satisfy Needs in Marathon.....	63
Table 5.2.14. Responses toward Feeling at Home and Being Involved in Marathon.....	63
Table 5.2.15. Community Problems in Marathon.....	64

Table 5.2.16. Important Factors for a Person to be Influential in Marathon	65
Table 5.2.17. Community Respondents' Knowledge of the 1994 Net Ban in Marathon.....	65
Table 5.2.18. The Negative Impact of the 1994 Net Ban in Marathon.....	65
Table 5.3.1. Demographic Information for Wakulla County and the CCD.....	70
Table 5.3.2. Housing Units for Wakulla County and the CCD.	71
Table 5.3.3. Racial Distribution and Educational Attainment for Wakulla County and the CCD.	73
Table 5.3.4. Industries in Wakulla County and the CCD.	74
Table 5.3.5. Employment by Sector in Panacea in 1994 and 1996	75
Table 5.3.6. Fishing Employment by Sector in Panacea in 1994 and 1996	76
Table 5.3.7. Demographics for Panacea.	79
Table 5.3.8. Employment Demographics for Panacea.....	80
Table 5.3.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Panacea According to Respondents.	80
Table 5.3.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Panacea.....	81
Table 5.3.11. The Importance of Fishing to the Local Economy in Panacea.....	81
Table 5.3.12. The Existence of Community Indicators in Panacea.	82
Table 5.3.13. The Distance Traveled In Order To Satisfy Needs in Panacea.....	82
Table 5.3.14. Responses Toward Feeling At Home and Being Involved in Panacea.....	83
Table 5.3.15. Community Problems in Panacea.	83
Table 5.3.16. Important Factors for a Person to be Influential in Panacea.....	84
Table 5.3.17. Community Respondents' Knowledge of the 1994 Net Ban in Panacea.	84
Table 5.3.18. The Negative Impact of the 1994 Net Ban in Panacea.	84
Table 5.4.1. Census Demographic Information for Franklin County and Apalachicola.	90
Table 5.4.2. Housing Units for Franklin County and Apalachicola.	91
Table 5.4.3. Racial Distribution and Educational Attainment for Franklin County and Apalachicola.	93
Table 5.4.4. Industries in Franklin County and Apalachicola.	94
Table 5.4.5. Employment by Sector in Apalachicola in 1994 and 1996	95
Table 5.4.6. Fishing Employment by Sector in Apalachicola in 1994 and 1996	95
Table 5.4.7. Demographics for Apalachicola.	98
Table 5.4.8. Employment Demographics for Apalachicola.....	99
Table 5.4.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Apalachicola According to Respondents.	100
Table 5.4.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Apalachicola.....	100
Table 5.4.11. The Importance of Fishing to the Local Economy in Apalachicola.	100
Table 5.4.12. The Existence of Community Indicators in Apalachicola..	101
Table 5.4.13. The Distance Traveled in Order to Satisfy Needs in Apalachicola.	102
Table 5.4.14. Responses Toward Feeling At Home and Being Involved in Apalachicola.....	102
Table 5.4.15. Community Problems in Apalachicola.	103
Table 5.4.16. Important Factors for a Person to be Influential in Apalachicola.....	104
Table 5.4.17. Community Respondents' Knowledge of the 1994 Net Ban inApalachicola. ...	104
Table 5.4.18. The Negative Impact of the 1994 Net Ban in Apalachicola.	104
Table 5.5.1. Census Demographic Information for Nassau County and Fernandina.	107

Table 5.5.2. Housing Units for Nassau County and Fernandina.	107
Table 5.5.3. Racial Distribution and Educational Attainment for Nassau County and Fernandina.	109
Table 5.5.4. Industries in Nassau County and Fernandina.	110
Table 5.5.5. Employment by Sector within Fernandina in 1994 and 1996.	111
Table 5.5.6. Fishing Employment by Sector in Fernandina in 1994 and 1996.....	112
Table 5.5.7. Demographics for Fernandina Beach.	114
Table 5.5.8. Employment Demographics for Fernandina Beach.....	115
Table 5.5.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Fernandina Beach According to Respondents.	116
Table 5.5.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Fernandina Beach.....	116
Table 5.5.11. The Importance of Fishing to the Local Economy y of Fernandina Beach.....	116
Table 5.5.12. The Existence of Community Indicators in Fernandina Beach.	117
Table 5.5.13. The Distance Traveled In Order To Satisfy Needs in Fernandina Beach.....	118
Table 5.5.14. Responses Toward Feeling At Home and Being Involved Fernandina Beach....	118
Table 5.5.15. Community Problems in Fernandina Beach.	119
Table 5.5.16. Important Factors for a Person to be Influential in Fernandina Beach.	119
Table 5.5.17. The Mean Score of Community Respondents On the Knowledge of the 1994 Net Ban In the Community of Fernandina Beach.	120
Table 5.5.18. The Negative Impact of the 1994 Net Ban in Fernandina Beach.	120
Table 5.6.1. Census Demographic Information for Volusia County and Oak Hill.	123
Table 5.6.2. Housing Units for Volusia County and Oak Hill.....	124
Table 5.6.3. Racial Distribution and Educational Attainment for Volusia County and Oak Hill.	126
Table 5.6.4. Industries in Volusia County and Oak Hill.....	127
Table 5.6.5. Employment by Sector in Oak Hill in 1994 and 1996.....	128
Table 5.6.6. Fishing Employment by Sector in Oak Hill in 1994 and 1996.....	129
Table 5.6.7. Demographics for Oak Hill.....	131
Table 5.6.8. Demographics for the Community of Oak Hill.	132
Table 5.6.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Oak Hill According to Respondents.	132
Table 5.6.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Oak Hill.....	133
Table 5.6.11. The Importance of Fishing to the Local Economy in Oak Hill.	133
Table 5.6.12. The Existence of Community Indicators in Oak Hill.	134
Table 5.6.13. The Distance Traveled in Order to Satisfy Needs in Oak Hill.	135
Table 5.6.14. Responses Toward Feeling At Home and Being Involved in Oak Hill.....	135
Table 5.6.15. Community Problems in Oak Hill.	135
Table 5.6.16. Important Factors for a Person to be Influential in Oak Hill.	136
Table 5.6.17. Community Respondents On the Knowledge of the 1994 Net Ban in Oak Hill.	136
Table 5.6.18. The Negative Impact of the 1994 Net Ban inOak Hill.	136
Table 6.1. Community Respondent's Mean Scores About Feeling At Home and Being Involved in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	147

Table 6.2. T-Test Between The Community Respondent's and Fisher's Mean Scores About Feeling At Home and Being Involved in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	147
Table 6.3 Community Respondent's Mean Scores About Fishing and The Local Economy in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)	148
Table 6.4. T-Test Between The Community Respondent's and Fisher's Mean Scores About Fishing and The Local Economy in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)	149
Table 6.5. Community Respondent's Mean Scores About Community Indicators in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)	150
Table 6.6.T-Test Between The Community Respondent's and Fisher's Mean Scores About Community Indicators in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)	151
Table 6.7. Community Respondent's Mean Scores About Community Problems in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not, 2=Somewhat, 3=Serious)	152
Table 6.8. T-Test Between The Community Respondent's and Fisher's Mean Scores About Community Problems in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not, 2=Somewhat, 3=Serious)	153
Table 6.9. Community Respondent's Mean Scores About Important Factors for a Person to be Influential in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not at All, 2=Somewhat, 3=Very)	154
Table 6.10. T-Test Between The Community Respondent's and Fisher's Mean Scores About Important Factors for a Person to be Influential in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not at All, 2=Somewhat, 3=Very)	155
Table 6.11. Community Respondent's Perceptions of the Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.....	156
Table 6.12. T-Test Between The Community Respondent's and Fisher's Perceptions of the Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	156
Table 6.13. Community Respondent's Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Least, 2= Next, 3= Most).....	157
Table 6.14. T-Test Between Community Respondent's and Fisher's Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Least, 2= Next, 3= Most)	157
Table 6.15. Community Respondent's Mean Scores for the Distance That They Must Travel In Order To Satisfy Needs In the Communities of Cedar Key, Oak Hill, Panacea,	

Apalachicola, Marathon, and Amelia Island. (1=>10 Miles, =7-10 Miles, 3=4-6 Miles, 4=1-3 Miles, 5=<a Mile).....	158
Table 6.16. T-Test Between The Community Respondent's and Fisher's Mean Scores for the Distance That They Must Travel In Order To Satisfy Needs In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=>10 Miles, =7-10 Miles, 3=4-6 Miles, 4=1-3 Miles, 5=<a Mile).....	158
Table 6.17. Community Respondent's Mean Scores On the Knowledge of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)	159
Table 6.18. T-Test Between The Community Respondent's and Fisher's Mean Scores On the Knowledge of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)	159
Table 6.19. Community Respondent's Mean Scores On the Impact of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree).....	159
Table 6.20. T-Test Between The Community Respondent's and Fisher's Mean Scores On the Impact of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree)	159
Table 6.21. Community Respondent's Frequency Distribution for Gender In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	159
Table 6.22. Fisher's Frequency Distribution for Gender In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	160
Table 6.23. Community Respondent's Frequency Distribution for Education Level In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	160
Table 6.24. Fisher's Frequency Distribution for Education Level In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	160
Table 6.25. Community Respondent's Frequency Distribution for Working Inside and Outside the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	160
Table 6.26. Fisher's Frequency Distribution for Working Inside and Outside the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	161
Table 6.27. Community Respondent's Frequency Distribution for Marital Status in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	161
Table 6.28. Fisher's Frequency Distribution for Marital Status in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	161
Table 6.29. Community Respondent's Frequency Distribution for Race in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	161
Table 6.30. Community Respondent's Frequency Distribution for Occupation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	162
Table 6.31. Fisher's Frequency Distribution for Occupation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.....	162

Table 6.32. Community Respondent's Frequency Distribution for Living Situation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.....	162
Table 6.33. Fisher's Frequency Distribution for Living Situation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	163
Table 6.34. Community Respondent's Mean Score for Age in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.....	163
Table 6.35. Fisher's Mean Score for Age in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.....	163
Table 6.36. Community Respondent's Mean Score for Number of Years in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	163
Table 6.37. Fisher's Mean Score for Number of Years in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.	163

TABLE OF FIGURES

Figure 2.1. Advisory Panel Map of Florida Fishing Communities.....	13
Figure 2.2. Florida zipcode boundaries before and after aggregation.	15
Figure 2.3. The Tampa Bay area prior to aggregation of zipcodes and after aggregation of zipcodes.....	15
Figure 2.4. Marinas in the Tampa Bay Area.....	16
Figure 2.5. Saltwater Products Licenses with Landings for the Year 1995.....	17
Figure 2.6. Employment Sectors for the Year 1996 with Fishing as a Separate Sector.	18
Figure 2.7. Fishing Sectors as a Proportion of Total Fishing Employment.....	19
Figure 3.1. Commercial Fishing Dependency Index Expressed as Commercial Fishing Employment Divided by Total Employment for 1996.	24
Figure 3.2. Recreational Fishing Dependency Index Expressed as Total Marina Employment Divided by Total Employment for 1996.....	26

Section 1.0: PURPOSE

1.1 Magnuson-Stevens Act and Description of the Problem

Fisheries management agencies have long known that their actions have social and economic impacts. Under the Magnuson Act, Regional Fisheries Management Councils have been required to address such impacts by producing social impact statements for all fishery management plans. However, the National Marine Fisheries Service that provides much of the impact assessment data to the Councils does not collect social data on a continuing basis in all of the regions of the United States. Under the revised Magnuson-Stevens Fishery Conservation and Management Act National Standard 8, federal policy now mandates that fishery management plans identify and consider the social and economic consequences of fisheries management actions on fishing communities, to assure their sustained participation and minimize adverse impacts (MSFCMA Section 301 [a][8]). This mandate is based on the recognition that conservation and management efforts have expansive social and economic impacts in fishing communities, affecting not just the individual harvester or processor, but also impacting “directly related fisheries- dependent services and industries”(for example, boatyards, ice suppliers, tackle shops)(Federal Register 632(84): 24235 [May 1, 1998]).

To comply with the Magnuson-Stevens Act, the Regional Fishery Management Councils must first be able to identify fishing-dependent communities. The Act defines fishing-dependent communities as “a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such a community ” ((Magnuson-Stevens Act, section 3(16)).

The definition of fishing community in the Act is workable only if the meaning of the phrase, “substantially dependent on or substantially engaged ”is defined. Yet the law is not specific as to what constitutes fishing dependence, and NMFS has not identified fishing-dependent communities throughout all coastal states. Consequently section 303 (a)(9) and 303 (b) (6) of the Magnuson-Stevens Act as it relates to section 301 (a) (8)(the National Standard 8 requirement to consider the social and economic impacts on fishing-dependent communities) have not been consistently implemented.

Even if concrete and objective criteria were established through research to define fishing dependency, the *application* of the definition would remain largely unusable. This is because communities are hard to physically identify and define. For example, in Florida and in nearly all coastal states, many fishing communities fall within unincorporated places. Essentially, this means that the community is not available as a unit of analysis because there are no census or other agency data available (with the exception of incorporated minor civil divisions). Fishing-dependent communities in the Southeast and elsewhere are likely to be small and located within unincorporated places.

1.2 Florida Fishing Community Project Objectives

This research describes problems related to defining and identifying communities and will develop a protocol to identify fishing-dependent communities using central place theory. Furthermore, the project will identify such communities for the entire state of Florida. Here we will describe the initial process of using central place theory and zipcodes to delineate coastal communities that later will be identified according to their dependence on fishing. The standardization of the definition of fishing dependence and a useable protocol for identifying such communities offers significant advantages over the ad hoc definitions currently employed. This research provides the means for community-to-community comparisons of the impacts of policy regulations. It is also possible to compare data across differing Regional Fisheries Management Councils using this methodology and readily available data at the zipcode level. Below are the specific goals and objectives for the project.

Goal 1. To define and identify fishing-dependent communities.

Objective 1. To develop a concrete and objective definition of fishing-dependent communities that applies to Florida and other states.

Objective 2. To develop a reliable protocol for quantitatively identifying fishing-dependent communities that applies to Florida and other states.

Goal 2. To empirically evaluate the definition of fishing-dependent communities and the identifying protocol.

Objective 1. To develop a typology that differentiates Florida fishing-dependent communities into categories based on region and economic structure.

Objective 2. To evaluate the definition and identification process using in depth case studies of selected fishing-dependent communities.

Objective 3. To test this process by collecting demographic data on fishing families and community business proprietors involved in fishing related enterprises.

Objective 4. To modify the empirically-generated definition of fishing-dependent communities based on an evaluation by community residents.

Objective 5. To refine the fishing-dependent community identification protocol.

Section 2.0: GOAL 1. TO DEFINE AND IDENTIFY FISHING-DEPENDENT COMMUNITIES AND THEIR RESIDENTS.

2.1 Objective 1. To develop a concrete and objective definition of fishing-dependent communities that applies to Florida and other states.

To meet objective 1, “To develop a concrete and objective definition of fishing-dependent communities that applies to Florida and other states”, we begin by reviewing the current literature on defining community and dependence. Then we will present a definition of fishing dependent communities based upon the literature and data analysis.

2.1.1 Literature Review: Defining Community

The implementing guidelines for National Standard 8 specify that: "A fishing community is a social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational or subsistence fishing or on directly related fisheries-dependent services and industries"[FEDERAL REGISTER 63(84): 24235; May 2, 1998]. Community scholars have long debated a basic definition of community. In 1955, Hillery identified 94 separate definitions of community that appeared in the classic and contemporary literature. If a current review of the community literature were conducted, many more definitions would be found. Murdock and Sutton (1974), Gusfield (1975), Warren (1978), Bender (1978), Hassinger and Pinkerton (1986) and many others have attempted to define critical elements of communities from the varied literature. Wilkinson (1991) reviewed this previous work and identified three critical elements that are common in most “conventional” definitions of community. Most community scholars would be comfortable with these requisite elements identified by Wilkinson, which are: (a) a locality, (b) a local society, and (c) a process of locality- oriented collective actions.¹

Locality, in this sense, simply means where people live and meet their daily needs. Local society emerges where people strive to meet common needs and express common interests. A local society addresses basic needs, and includes social groups, an economy, and other institutions that are formed within the locality. Last, a process of locality-oriented collective action arises. Collective action is a mechanism to express mutual interests in the local society that are not driven by self- interest, but rather are for the good of the local society (Wilkinson 1991). At the individual level, such a process produces feelings of community attachment or solidarity (Brown 1993, Hay 1998, Jacob 1997). If the first two elements of community are present (locality and local society), the third element (process or locality-oriented collective actions) is likely to emerge (Bridger 1994; Zekeri et al. 1994; Jacob 1997).

By relying on these three elements of community as a guide, many commonly operationalized definitions of community do not quite measure up. For example, counties could not be considered communities within this framework because they do not have a locality or local society. Counties are aggregations of localities and local societies, since they usually contain several or more communities within their boundaries. As data from differing communities are aggregated to the county level, the local situation, which that data portrays, is

distorted (Luloff and Greenwood 1980). Attributing aggregated county-level data to communities within the county or to individuals within the county is an example of the so-called “ecological fallacy” (Firebaugh 1978; Robinson 1950). This simply means that it is incorrect to correlate aggregate data with communities or individuals.

Other problems with county data include the fact that individuals rarely develop feelings of solidarity or attachment for counties. This reflects the fact that there is no process for locality-oriented actions within counties. In most cases, communities compete with one another for limited resources from the county, so much so that those individuals relate to their communities and not counties (Jacob and Willits 1994). Additionally, counties have boundaries that do not reflect the actual patterns of the interactions of residents. For example, people may live in a city’s suburb in a different county from the city, but in reality their community lies in both counties (Jacob and Willits 1994).

2.1.2 Literature Review: Natural Resource-Dependent Communities

Much of what is known about natural resource-dependent communities has been generated to address the presence of persistent poverty in rural places. There are essentially two frameworks for analyzing community reliance on natural resources or natural resource extraction. The first view is called incrementalism (Richardson 1979). This perspective makes the assumption that natural resource extraction is an important initial step for the development of a community’s economy, so that the economy will then create “backward” linkages with other businesses that support the extraction of the resource (Richardson 1979). As the economy further matures, forward linkages are established that produce and market “added value” to the raw resource, which offers numerous economic benefits, including better paying jobs. The incremental perspective remains the dominant paradigm regarding the use of local natural resources as an economic development strategy and an engine for local growth (Richardson 1979). The second perspective is often called the uneven development hypothesis. Here, it is thought that communities are only the setting for resources, which are extracted from the periphery and brought to the core, where most benefits and the riches that are attached to the natural resource accrue (Lovejoy and Krannich 1982).

In Florida, most fishing communities have developed forward and backward linkages around fishing industries. Backward linkages in most communities include boat building and repair, net making and repair, marinas, bait and tackle shops, and other fishing-related businesses supported by both recreational and commercial fishermen.

Forward linkages would include fish houses, wholesalers, exporters, seafood shops and restaurants, and other related businesses. Also included are other community retail/service businesses that service employees of the fishing and related industries (i.e., grocery stores, drug stores, automotive repair, banking, etc.). Forward and backward linkages of a local industry impact the well being of residents (Overdevest and Green 1994). For example, in timber-dependent communities, those that have businesses that are characterized by mature forward linkages or core-type industries that add value to the raw resource, such as paper or paperboard mills, often have more favorable social conditions than communities where a greater number of workers are employed directly in logging (Overdevest and Green 1994). This reflects the impact

of “added value ”of the local natural resource. Nonetheless both types of communities are natural resource-dependent and vulnerable to market and regulatory forces that impact that industry. Such segmentation of the natural resource-dependent economy does not cushion the impact of drastic change (Overdevest and Green 1994).

Natural resource-dependent communities are typified by large fluctuations in economic prosperity in part because the availability of the resource itself is naturally cyclical. The markets and demand for the resource are also cyclical (Peluso et al. 1994; Freudenburg 1992). Additionally, fishers and other extractive workers are price takers; they do not set the price of their product. Therefore, they are subject to the whims of the global, national, regional, and local markets.

In mining, timber, fishing, and agriculture, the “cost-price squeeze” hits producers hard (Freudenburg 1992; Peluso et al. 1994). It has been shown that extractive industries have increases in production costs as time passes. Initially, the most easily and profitable resources are harvested, and eventually more expense is needed to continue to harvest products. For example, a prime ore load can be mined, an accessible timber stand can be cut, an inshore fishery can be exploited, or mineral-depleting crops can be grown without fertilizer. Eventually, the costs of production rise and locals must dig deeper, go further away, or buy additional inputs to sustain production. Thus, expenses increase. Nonetheless, historically, the cost of resources remains relatively constant or declines over time (Freudenburg 1992). This point is counterintuitive but factual. Freudenburg points out that there are four factors that contribute to this situation. First, as resources come into demand, other areas, usually in less developed countries start exploiting the resource. Second, technological advancements create harvesting efficiencies (though they drive up producer costs through added expenses). Third, efficiencies in the use of the resource tend to minimize consumption of the most valued resource. Last, product substitutions can work to suppress prices.

Fishing families become particularly hard hit by the increasing efficiency of harvesting fish. The largest commercial operations invest heavily into mechanized equipment and have the impact of increasing efficiency, and simultaneously decreasing the price and damaging the resource by over fishing (Nord 1994). As a result, the smaller and less efficient boats produce lower incomes and the resource becomes depleted (Nord 1994). Nord (1994) labeled this “self exploitation ” because the fishers feel obligated to stay in this poorly remunerated activity because of their own desire to continue fishing, their prior capital investments, and their specialized skills.

The result of employment in extractive industries is that over time production tends to increase, capital costs of harvesting increase, employment goes down, and the price of the product tends to stay flat. Further, there is a cruel irony of markets: when fish are scarce the price is highest, but when they are bountiful, prices are lower. An alternative to the above “cost-price squeeze” scenario, are common property regimens where over-exploitation incentive of the resource is eliminated. Additionally, prices for resources tend to be more stable under such a management scheme.

A good analogy to make here is the link between farm- dependent communities and other natural resource-dependent communities. Although many differences persist, fundamentally what has been seen in the decline of agricultural employment and communities holds true in other extractive industries and communities (Freudenburg and Frickel 1994). For the past 70 years, the decline in agricultural employment has been mirrored by the decline in timber and mining employment that has been described as "...falling off the same cliff at roughly the same rate of speed "(Freudenburg and Frickel 1994).

Nearly all American communities were dependent on extractive industries at some time in their history (Flora et al. 1992). Now, while some are still economically dependent on the extraction of resources, most have made the transition to manufacturing or services, or some combination of the three. Indeed, the growth areas of the national economy are in the service sector and high-technology manufacturing. Over the last two decades the service sector and high-technology manufacturing have accounted for increasing percentages of the Gross Domestic Product (GDP), while small manufacturing and extractive sectors have had declining or stable percentages of GDP (Flora et al. 1992). Communities have struggled during these economic transitions (Nord 1994). The continued decline of extractive and manufacturing employment has stressed some communities, while others have adapted and made the transition to more service-oriented or newer forms of economic structure. It seems likely that fishing-dependent communities will be strained by economic transitions.

Human capital, as seen in resource-dependent communities, can be described by a curious dichotomy. In natural resource-dependent communities it is not uncommon to see both rational under-and over-investment in human capital (Beaulieu and Mulkey 1995;Freudenburg and Frickel 1994). Reasons for under-investment include the perception that the risks of increased education are too high (i.e. they may have to move), they can earn "good money "immediately without investment in education, and the cost of education is perceived as high. In some cases, over-investment of human capital can occur (Beaulieu and Mulkey 1995). This is a situation where a person may become so specialized that s/he is essentially unemployable. This would include persons who use sophisticated equipment, such as GPS navigation gear, which requires a degree of training but is not readily transferable to other forms of employment besides fishing. Individuals often tend to be reluctant to move into another job sector as a consequence of over-investment in human capital (Jensen and McLaughlin 1995). These situations may make fishers and their families, and workers in fishing communities, less prepared to adapt to changes. Regardless of human capital investment, economic well being in resource-dependent communities is subject to a great deal of uncertainty (Humphrey 1995). In fact, Freudenburg (1992) found five to ten times as much poverty and unemployment in a pair of resource-dependent communities as in the nation as a whole in the same time period.

Other issues keep natural resource-dependent communities from diversifying. When mine workers are laid off or fisherman have no market for their catch when prices are low, workers know they may eventually be able to go back to work. Paradoxically, the workers tend to stay in the area to work again when the prices are high, which tends to mask the long-term trend of decline (Freudenburg and Frickel 1994). Freudenburg and Frickel (1994) point out that this process resembles a powerful behavioral reinforcement much like a "positive reinforcement regime "such as a slot machine or other gambling device. Many fishers express their jobs as a

“daily gamble ” and an opportunity to possibly “get rich. ” Nonetheless, in natural resource-dependent areas, residents without the skills, opportunity, or desire to work in other industries may choose to live in poverty or at a subsistence level to continue in their job.

Stress and well-being of people in natural resource- dependent areas is inevitably linked to powerlessness (Peluso et al. 1994). This powerlessness comes in the form of the inability to have access to the resources that have traditionally provided a living for residents. In the case of commercial fishers in Florida, access to the inshore fishery was diminished substantially by the 1994 ban on entanglement nets in state waters (net ban). This would be expected to compound the pressures and stress in everyday life, and also ripple through the entire fishing community. This diminished access to the resource is made particularly confounding by the nature of the net ban referendum. Led by recreational fishers, the net ban negatively impacted commercial fishers, to the benefit of recreational fishers. That is to say that the value of the inshore fishery has been shifted from commercial to recreational fishing. This has been accomplished through legal measures that have disempowered the commercial fishers and diminished to a large degree their ability to use the resource for economic gain. This situation has also created new kinds of fishing-dependent communities that may be in transition to an economy based on recreation or eco-tourism and must be included in a useful definition of fishing dependence.

One possible solution to the definition of fishing dependency is to develop a threshold of dependency based on the percentage of total labor and income from fishing for a given community. For example, the Economic Research Service- United States Department of Agriculture has identified the following typology for non-metropolitan U. S. Counties (ERS-USDA 1989):

Farming-dependent: Farming contributed 20% or more of total labor and total income.

Mining-dependent: Mining contributed 15% or more of total labor and total income.

Manufacturing-dependent: Manufacturing contributed 30% or more of total labor and total income.

Government-dependent: Government contributed 25% or more of total labor and total income.

Services-dependent: Service activities (private and personal services, agricultural services, wholesale and retail trade, finance and insurance, transportation and public utilities) contributed 50% or more of total labor and total income.

Nonspecialized: Counties not classified as a specialized economic type.

A similar definition scheme could easily be used for fishing- dependent communities. However, this approach has some severe limitations. The ERS-USDA typology is arbitrary in setting the thresholds of dependence. There was no systematic analysis that help set thresholds other than to

limit as much as possible the number of counties that would be dependent in multiple categories (Luloff 1987). The typology can also be criticized for its lack of exclusivity, and the categories are not exhaustive (Luloff 1987). Last, county-level data is not representative or sensitive enough for community-level data.

There is an additional problem with the ERS typology. County classification can be interpreted in three essential ways. First, the county may be truly dependent on a single economic sector. Second, a county may emerge as dependent on a single sector because there is little economic activity in that county (so the sector is relatively important, but objectively very small). Third, a county which has significant production in an economic sector is not classified as dependent because the overall economy is very large and diverse and that specific sector is significant, but not a large part of the total economy.

The ERS-USDA typology has problems but offers a good starting place for developing a meaningful definition of fishing- dependent communities. A threshold percentage of total labor and income from fishing could be determined by establishing what the multiplier effects of fishing related income are within most communities. From this analysis, what percentage would produce a “dependence ” impact could be determined.

Considerable care in developing such a dependence threshold would have to be taken to avoid similar problems with the ERS-USDA typology. In developing the dependence definition one must ask the question:“ If something happens to the recreational and/or commercial fishing industry in this community, are a significant number of people impacted?” This is a relative approach, an alternative to assessing the objective portion of the economy that is comprised of the fishing industry. This means that larger communities where there are significant numbers of people engaged in fishing activities are captured in the definition, even though such activities may only be a small percentage of economic activity. For example, in Dade County, Florida, the sale of agricultural products accounted for nearly \$200, 000, 000 in the local economy in 1992, and yet this figure was less than 2% of the total workforce and income in the county. However, the loss of this sector of the workforce and the associated income would certainly produce a significant impact in Dade County.

Exactly what comprises a significant number of people impacted by the loss of either the recreational or commercial industry must also be determined. When calculating this threshold of impact, we must be as inclusive as possible, so we may measure dependence with the inclusion of both forward and backward linkages that includes goods and services that are important to both recreational and commercial fishing communities.

Economic research could determine what the multiplier effects of broadly defined fishing-related income are embodied within most communities. From this analysis, the percentage that would render a community “dependent ” could be determined in a relative sense by defining at what level the sector is significant in most communities. However, this definition may prove to be too insensitive in measuring a significant impact if the industry were to leave the county. As such, a multiple part definition based on percentages and/or absolute number of persons impacted within a community is needed.

2.1.3 Literature Review: Identifying and Defining Natural Resource Dependent Communities

One of the first profiles of fishing dependent communities in Florida was Edward R. Earll's description in G. Brown Goodes' *The Fisheries And Fishery Industries Of The United States* (1887). This work furnishes descriptions of the types of fishing being prosecuted with an approximate number of fishers and descriptions of fishing gear being used. It provides an historical basis for considering a community's fishing dependency in the past.

More recent descriptions of fishing communities have been tied to particular management actions and have attempted to address the issue of fishing dependence (Aguirre International, 1996; Impact Assessment, Inc., 1991; NPFMC, 1994; Johnson and Orbach, 1997). Griffith and Dyer (Aguirre International, 1996) developed a typology of fishing community dependence for the Northeast Multi-species Groundfish Fishery (MGF). In that typology, the authors identified indicators of dependence which included specific physical-cultural and general social-geographic indicators, i.e., number of repair/supply facilities; number of fish dealers/ processors; presence of religious art/architecture dedicated to fishing; presence of secular art/architecture to fishing; number of MGF permits; and the number of MGF vessels. Using previous results and rapid appraisal they developed a fishery dependence index score for the five primary ports in the MGF. As a result they were able to document five variables that best predicted dependence upon the MGF: (1) relative isolation or integration of fishers into alternative economic sectors, including political participation; (2) vessel types within the port's fishery; (3) degree of specialization; (4) percentage of population involved in fishery or fishery-related industries; and (5) competition and conflict within the port, between different components of the MGF (Aguirre International, 1996).

Elsewhere, detailed community profiles were conducted in Alaska to understand the impacts of harvest allocation on communities and on fisheries (Impact Assessment, Inc., 1991; NPFMC, 1994). These profiles utilized census data, permit data, and other available reports supplemented by ethnographic data collection for each community. The profiles provided baseline data to facilitate social impact assessment for license limitation management of the groundfish and crab fisheries. Similar ethnographic data collection has been used before but is often contingent on sufficient funding and an extended time frame.

In their research, Johnson and Orbach (1997) combined several counties into management areas, which reflected many sociological, ecological and environmental differences; differences, which were reflected by the types of fishing, found in the various communities. Although they did not attempt to define dependence or specify specific fishing communities, they did contend that management of fisheries would be enhanced if it were to take into consideration the broader social and ecological realities of fishermen's behavior.

Machlis et al. (1997) and Force and Machlis (1997) recognized the need to develop more genuine community indicators in their attempt to profile the Human Ecological Model. Unfortunately, many community-level indicators offered are county-level and suffer from the previously described obstacles (Force and Machlis 1997). Robinson's (1997) effort to develop community indicators in a regional Input- Output model shows some promise by modifying

commonly used economic indicators to reflect more realistic community level data. This I-O model can be elaborated with little modification of existing zipcode data using qualitative methods (Robinson 1997).

Finally, Krannich and Zollinger (1997) developed a typology of resource-dependent areas based upon observed patterns of resource-based economic activity. The four typologies: sustained, cyclical, transitional, and declining, exhibit the multifaceted nature of resource dependent areas and important differences in the development potential for each type (Krannich and Zollinger, 1997).

2.1.4 Literature Review: The Relevance of Central Place Theory

This research uses central place theory to develop a protocol for identifying fishing communities that avoids many of the limitations of previous research. Community level indicators are developed through a process of defining the boundaries of a community by combining zipcode boundary areas.

According to central place theory, central places are where services, goods, and other needs are met for both the residents of that central place and those in the surrounding hinterlands (Richardson 1979). These “central goods” help form a hierarchy of places or a system of cities. The levels of goods and services they offer array places. Markets serve as the basis for defining central places. Local markets and local economies cannot arise without the presence of local societies (Jacob 1997). Both local societies and central places are expected to fulfill the function of meeting most ordinary daily needs of residents. These include such things as grocery stores, restaurants, schools, churches, and local government. However, these residents are likely to have to travel to a larger central place to receive medical care, clothing, or more specialized goods and services because more specialized goods and services need a larger population base to support them. Defining communities by central place fits well with the elements of community identified by Wilkinson (1991). This is because central places are territorially based and meet the requisite element of locality because people live and meet their day-to-day needs in such places. The inclusion of central place (center and hinterland) ensures that those in hinterlands and more rural places are captured in a reasonably complete local society, one that can provide most basic needs and organize common interests and needs of residents. With the inclusion of locality and local society as measured by central place, such areas should provide an arena for the emergence of community through a process of collective actions.

2.2 Initial Definition of Fishing Dependent Communities

After careful review of the literature we adopted a conservative approach to defining relative and absolute fishing dependence. The forward and backward linkages observed in fishing communities are extensive. Therefore, it is quite likely that employment data in directly related commercial fishing sectors is likely to significantly underestimate the economic impacts of commercial and recreational fishing in a community. To account for the embedded nature of these economic linkages, we used regional economic multipliers for employment to estimate the number of jobs that were directly and indirectly related to fishing in each community. We chose a threshold of dependence at 15% of employment. This figure is the same as USDA ERS

typology category as mining-dependent, another industry with extensive forward and backward linkages but a raw product that is likely to be exported out of the community quickly before value is added. The fishing industry, however, is typified by a necessary level of handling in the local community, namely cleaning, processing, and packaging before distribution. Additionally we chose a lower threshold because the data that were available to us and other researchers is likely to substantially underestimate fishing employment and income.

The second part of the proposed definition, an absolute definition, was very hard to determine due to the diverse nature of the economies of Florida communities. We proposed to develop a definition that determined an economic threshold that would recognize the importance of the fishing industry in the local community. This figure needed to be substantial and significant, especially for the larger communities. In the smaller communities, an absolute definition would be redundant with the relative definition. However, our data indicated that even very large income figures, (as high as approximately \$40 million in some of Florida's largest communities, such as Tampa) the percentage contribution to the overall economy was only a fraction of one percent (the figures for employment sometimes reached two or three percent of all jobs). On the basis of this situation we discovered that an absolute definition had little utility in identifying fishing dependent communities. For example, it would make little sense to say that Tampa is fishing dependent.

Additionally, we feel that an absolute definition is unnecessary because the EO 12866 provides a figure of \$100,000,000 annually as a significant impact. This figure is taken from the Guidelines for Economic Analysis of Fishery Management Actions (revised August 16, 2000) and is used as an economic threshold and would apply to Florida communities on a regional basis.

We identified and defined communities using central place theory and other basic tenets of community field theory (Wilkinson 1991). These works, based upon historical analysis, suggest that communities consist of a central place and an hinterland. With the area of influence of the central place being approximately a ten mile radius for most goods, services, jobs, and social interactions (Hawley 1950, pp. 255-257).

To meet Objective 2, we began to operationalize the initial definition from Objective 1. This consisted of aggregating zipcodes in to human ecological communities. The choice of zipcode as the elemental block for aggregation is important because it allows for license and landings data to be matched, using the zipcode as the geographic identifier. Data at the zipcode level allows analysis well below the county level, which as discussed earlier, rarely represents community.

2.3 Objective 2. To develop a reliable protocol for quantitatively identifying fishing-dependent communities that applies to Florida and other states.

2.4 Methodological Approach

Initially, this research convened an Advisory Panel which consisted of individuals who were familiar with fishing communities in Florida. These individuals were commercial and

recreational fishermen or family members, state, regional and federal fishery management personnel, and others who through their work or experience had some familiarity with coastal communities of Florida and their dependence upon recreational and commercial fishing (see Appendix IV). The advisory panel was convened in the early stages of the research to present the proposed plan of action and gather information from the panel about what was needed to define what is a fishing community and how do you determine dependence (see Appendix V). Unfortunately, it became evident that many panel members would be unable to attend meetings because of the prohibitive costs of travel around the state. Because the grant did not include travel funds, another method of interaction was deemed necessary.

A website was created which included data products from the research and a discussion channel for advisory panel members. Updated progress and data maps were provided for panel members and the general public. All panel members were given the website address and instructions on how to sign up for the discussion channel. The discussion channel was provided to advisory panel members only, although the public were invited to submit questions to the panel by emailing the project coordinator. Although all panel members had access to computers and the internet, the discussion channel did not succeed in fostering dialogue on the many topics which seemed important to identifying fishing communities in the state. Several attempts were made to contact panel members and encourage their participation. Unfortunately, very little discussion ensued and eventually the discussion channel was removed from the website.

In one successful attempt to gather input from the panel on how to identify fishing communities in Florida, a Florida map was mailed to all panel members with a request to identify all known fishing communities in Florida. From those responses the Advisory Panel members produced the map in Fig. 2.1 listing all the fishing communities identified.

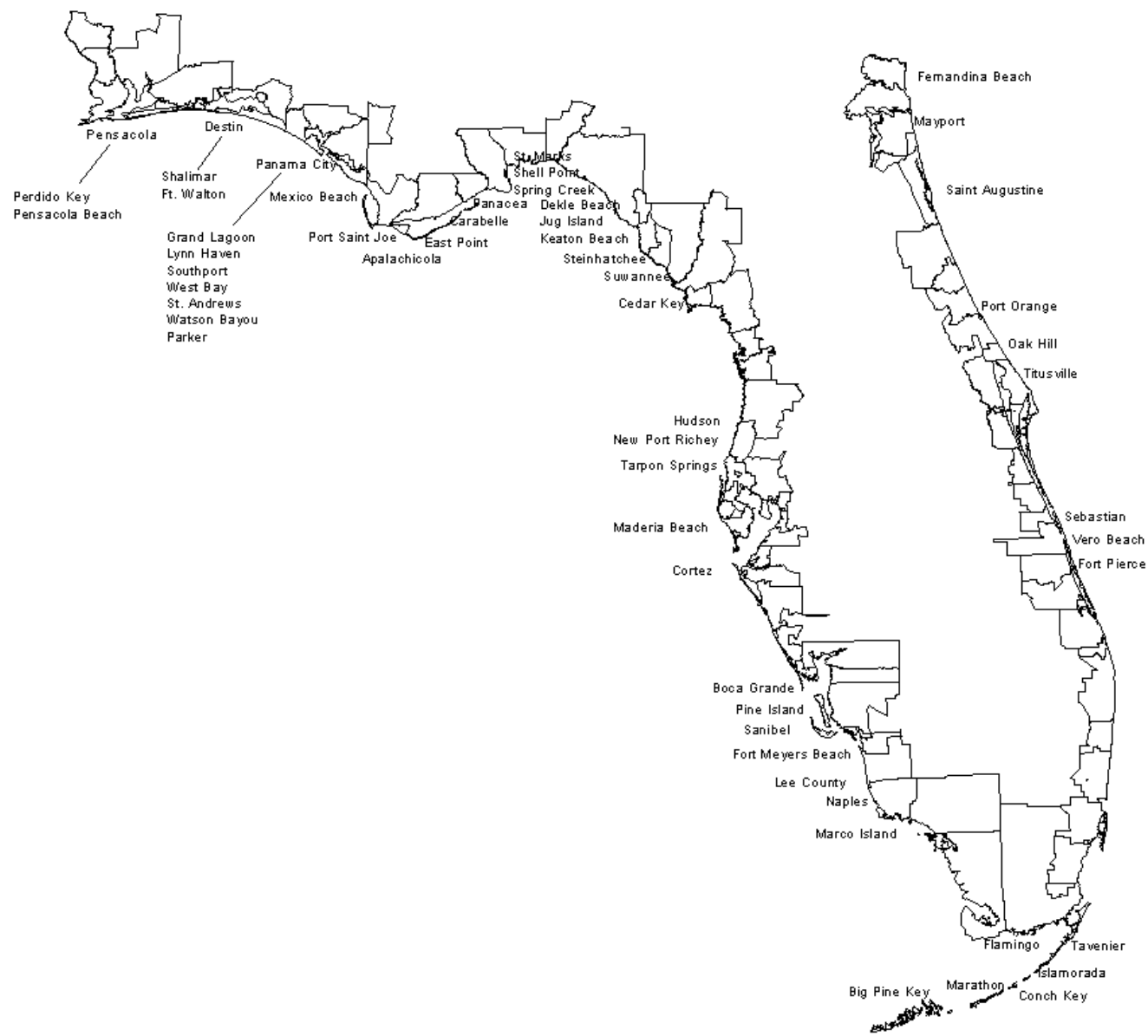


Figure 2.1. Advisory Panel Map of Florida Fishing Communities

2.4.1 Zipcode Aggregation

In an attempt to find more meaningful social indicators that correspond to community level data it was decided to utilize data at the zipcode level. Other research has done exactly that with some success. Gould (1985) combined zipcodes to examine the relationship between cancer mortality and toxic waste and has advocated this approach in other areas of social indicator research. Kusel (1996) has argued for a similar approach in studying well-being in forest dependent communities and Force and Machlis have also concluded that for community research data beneath the county level needs to be found. The following description outlines our approach in combining zipcodes to approximate community level data well below the county level.

A computer algorithm based on central place theory was developed and then used to identify and assign zip codes to a central place and hinterland. Population size served as a proxy for the market that served both locals and those in the hinterland. The analysis incorporates zip code-based population data for the entire state. Ten miles has been shown to be a reliable distance for central place and hinterland based upon the interactions of those who live in the hinterlands (Jacob 1997; Hawley, 1950).

First, the highest-population zip code in the state was taken as the center of a central place, and zip codes within ten miles of its center were assigned to that community. Zipcode boundary files used for this research included a population variable with census estimates from 1996. Each aggregated zipcode community was then placed under a single heading and zipcode (e.g., Miami, 33180) to be used for future aggregation and identification. The zipcode with the next largest population that remained in the database was then identified and all zipcodes within a 10-mile radius of it were selected and again removed from the database (Hawley 1950). This process was repeated until all zipcodes had been removed from the database file and were grouped under a single zipcode for each new community boundary. The zipcode database software used for this analysis contained 1882 zipcodes for Florida. The aggregation produced 213 zipcode communities, 81 of which were coastal communities and potential fishing-dependent communities.

The naming protocol used for communities was subjective in the sense that the largest zipcode area name was used most often. In some cases, however, a community name reflects the title of the most zipcodes in the area. Duplicate names are included for areas in which the authors did not have sufficient reason to choose another name without additional fieldwork or input from the advisory panel. Names are easily changed in the database.

Once zipcodes were aggregated, the zipcode boundary files within an Arcview shape file were joined accordingly, with all zipcodes included in the 10-mile radius joined into one boundary. The results can be seen in Figure 2.2 for the entire state and in Figure 2.3 for the Tampa Bay area. In addition, all zipcodes included under each aggregated community were written into an aggregation statement to be used for later data analysis using SPSS. The syntax statement converted each zipcode to a specific zipcode corresponding to the aggregation. In other words, if the zipcodes 32001, 32002, 32003 were all within 10 miles of 32004, which was the larger of the four zipcodes in terms of population, they would all become 32004 within the

aggregation syntax statement. This syntax statement was then used to aggregate all other data to the appropriate zipcode. All zipcodes included within each community are provided in Appendix II. The underlined community identifies the zipcode chosen by Arcview after aggregating the shapefiles and the number represents the miles from the central zipcode. Again, naming each community was somewhat arbitrary in the sense that the Arcview software chose the zip and community name, but in some cases this was changed to reflect the more popular and recognized name of a place.

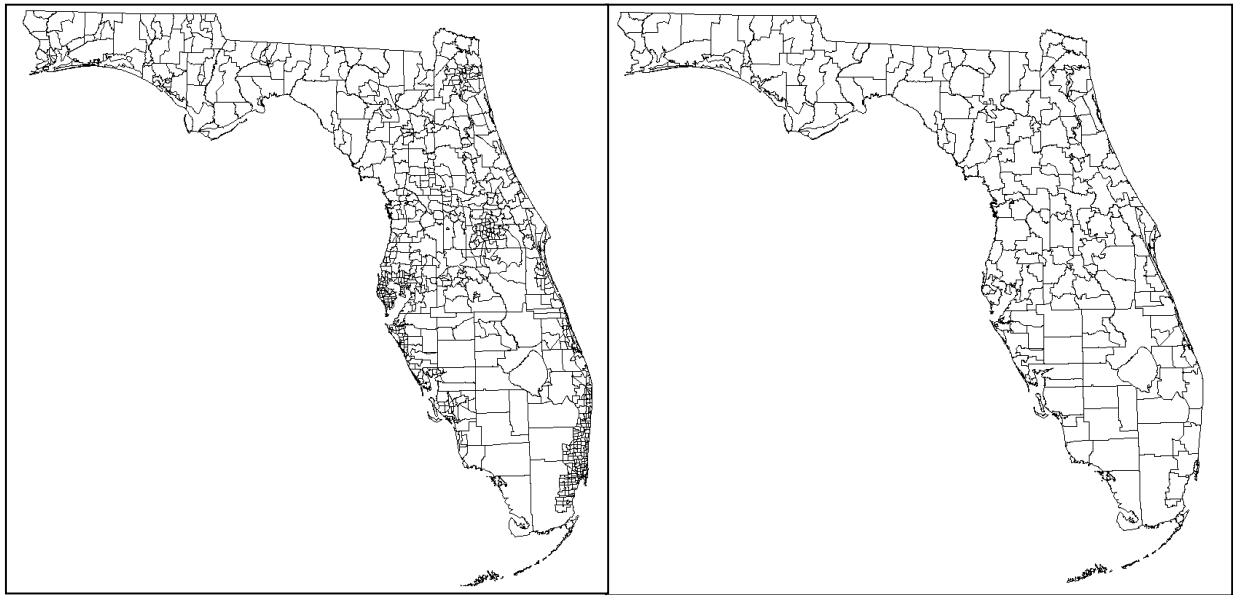


Figure 2.2. Florida zipcode boundaries before and after aggregation.

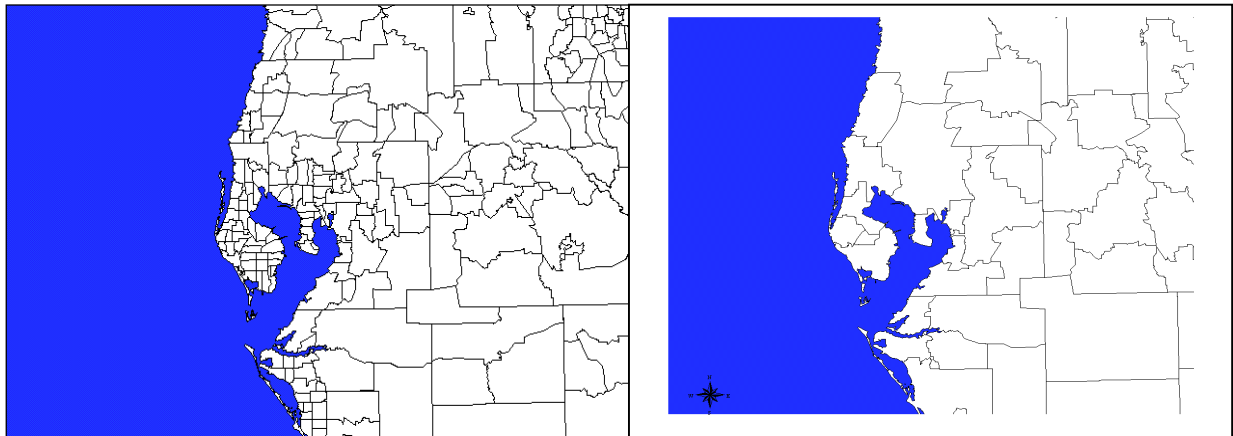


Figure 2.3. The Tampa Bay area prior to aggregation of zipcodes and after aggregation of zipcodes.

2.4.2 Data Aggregation

A database of several types of fishing related permits was created using the aggregation syntax statement. Commercial Fishing Permit data from both the State of Florida and the National Marine Fisheries Service were obtained. Saltwater Products Licenses (SPLs) along

with Seafood Dealer permits from the State of Florida for the years 1994 through 1999 were aggregated at the zipcode level. Federal Commercial Fishing permits and Charter Fishing permits for the years 1994 through 1998, along with Federal Seafood dealer permits were also aggregated and added to the database. Data on marinas in Florida were obtained from the Department of Environmental Protection. In addition, County Business Pattern data for 1994 and 1996 were obtained from the Census Bureau and aggregated at the zipcode level along with Census Demographic data from the 1990 Census.

All data were imported into Arcview GIS software for further analysis and review. Once in Arcview mapping software, various types of data can be projected and overlaid with other types of data as seen in Fig. 2.4.

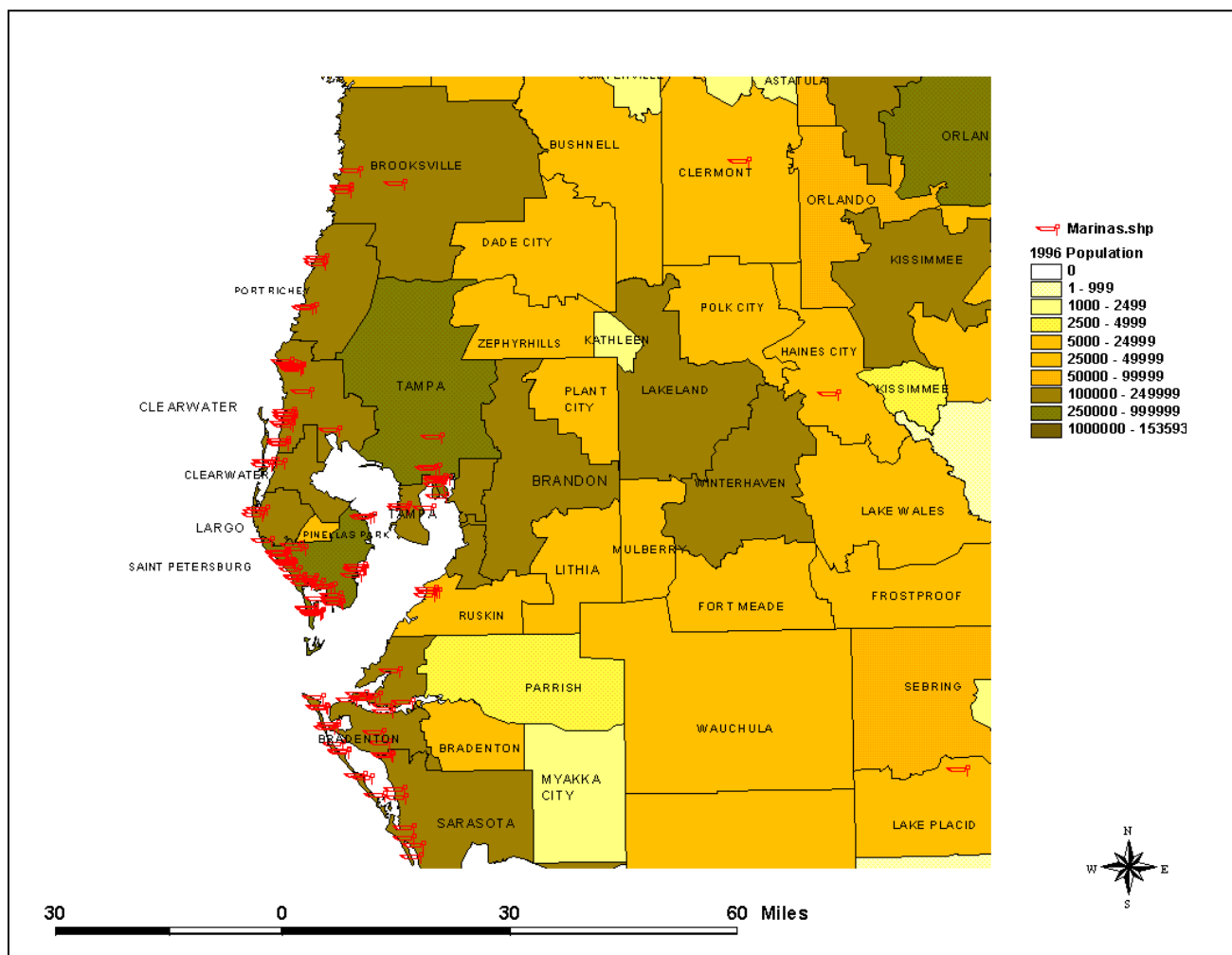


Figure 2.4. Marinas in the Tampa Bay Area.

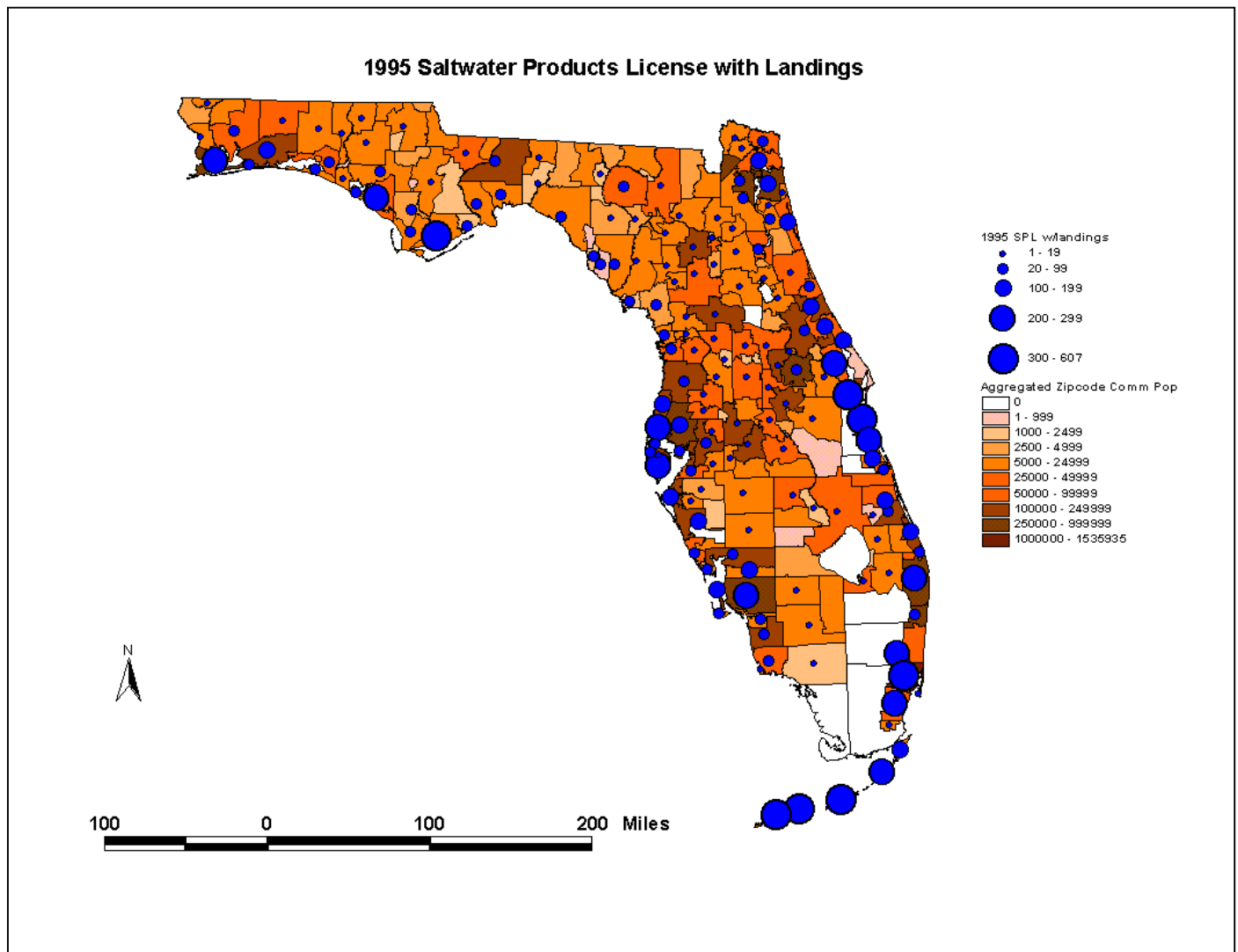


Figure 2.5. Saltwater Products Licenses with Landings for the Year 1995.

Marina locations are shown in Figure 2.4 along with population categories for the aggregated zipcode communities. As would be expected, the concentration of most marinas is along the coast and in the higher populated areas. Data can also be projected to show the concentration of permits, such as the Saltwater Products License data in Fig. 2.5.

County business pattern data for 1994 and 1996, which includes employment figures by zipcode, were also aggregated and included in the database. The 4-digit Standard Industrial Classification (SIC) employment data at the zip code level consists of employment counts rather than the number of firms in each of the 14 firm size classes (e.g., 1-4 employees, 4-9 employees, 10-19 employees, etc.) for each sector. We took the mid-point of each of the size classes and multiplied by the number of firms in that size class. Next we added the products for a single sector and created an estimate of the employment for the sector within each zipcode area. Data were then aggregated to each new zipcode area (see Figure 2.6).

To compare employment in fishing related businesses, all categories that were related to commercial and recreational fishing were extracted from their respective sectors and combined to form a completely new sector called fishing employment¹. The number employed within each of these designated fishing sectors was combined and added to the database as fishing employment. The results can be seen in Figure 2.7. For each aggregated zipcode area, the amount of fishing employment can be compared to the employment in each of the other sectors. Fishing employment was color-coded yellow to easily distinguish it from the other sectors.

Fishing employment itself was separated from other employment to examine the contribution of various sectors within fishing employment variable for each community. Therefore, the relative contribution of the category Marinas versus Fish and Seafoods can be compared for each community, as well as all other fishing related sector's contribution to the fishing employment, as seen in Figure 2.7.

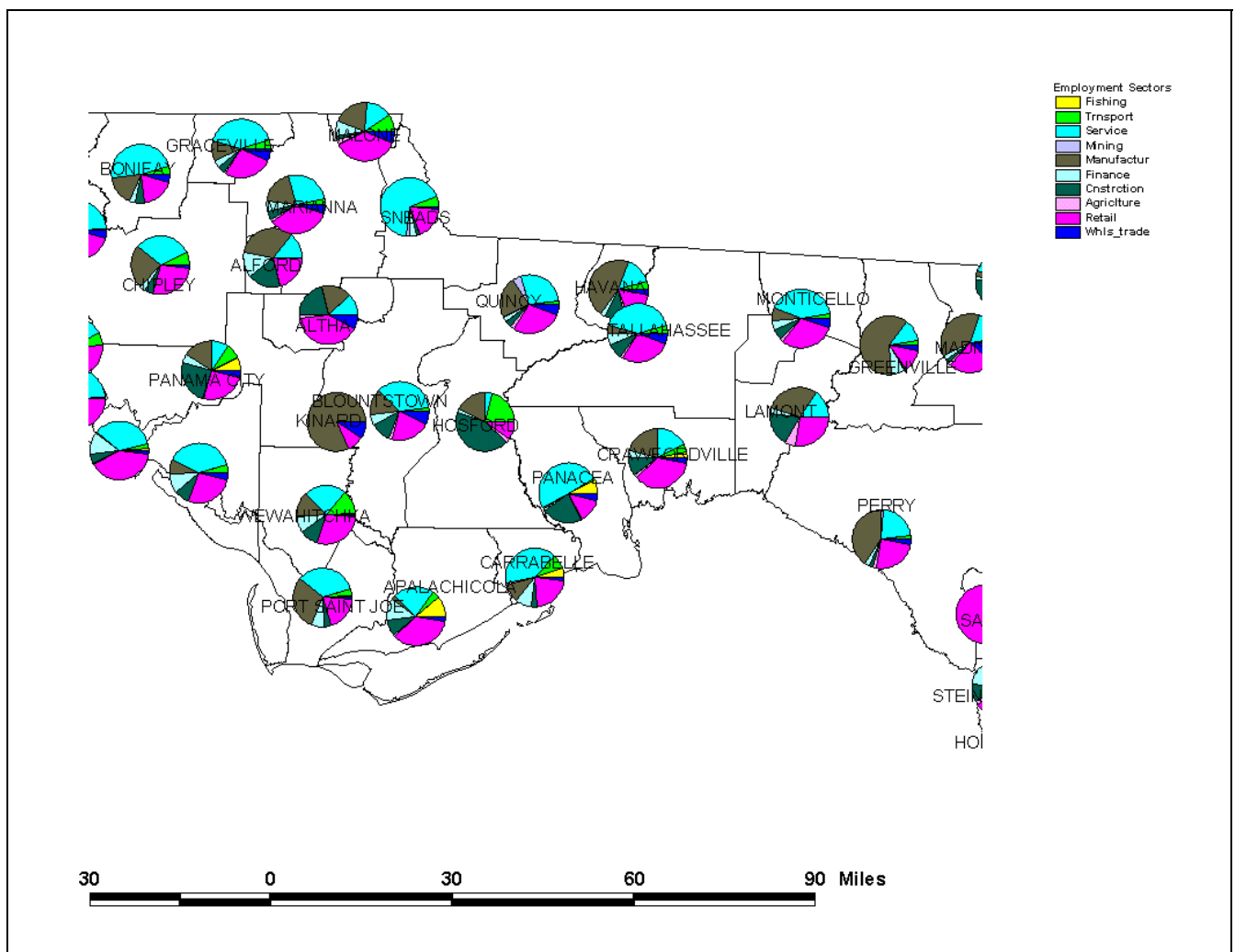


Figure 2.6. Employment Sectors for the Year 1996 with Fishing as a Separate Sector.

¹ The SIC codes that were extracted to represent fishing employment were as follows:
0900 Fishing, hunting, and trapping; 2091 Canned and cured fish and seafoods; 2092 Fresh or frozen prepared fish;
4493 Marinas; 5146 Fish and Seafoods

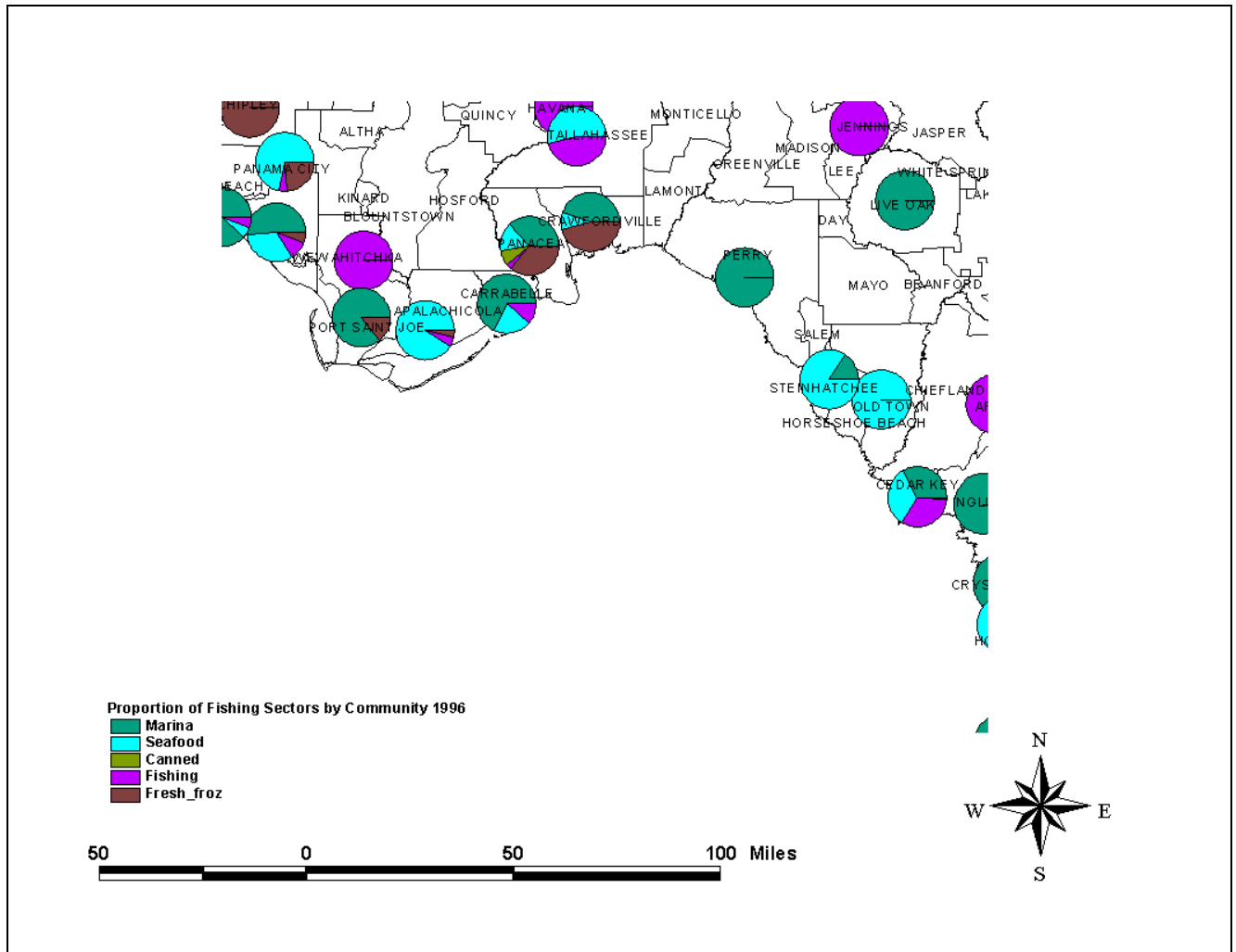


Figure 2.7. Fishing Sectors as a Proportion of Total Fishing Employment.

Regarding employment in the seafood industry it should be noted that seafood processing can often take place far from the coast. Because this research incorporated coastal communities only, inland communities with significant employment from seafood processing are not considered. The Magnuson-Stevenson definition of fishing community may encompass such communities. However, these communities certainly would not embody the culture or legacy that most coastal fishing communities convey and therefore were excluded from this research. Future research might explore the processing sector more thoroughly to examine employment in such non-coastal communities.

2.4.3 Community Profile and Rapid Assessment

Once all data were aggregated and categorized, further analysis was performed to examine several variables that would enable the creation of a typology for identifying fishing-

dependent communities. Commercial fishing permit and landings totals were used to rank each community. Each community was then also ranked using population divided by the number of permits. Community rankings were compared to determine which had a high number of permits and which had a high ratio of permits to population. By comparing community rank on several of these variables from both 1994 and 1996, it was possible to evaluate any change in permits after the “net ban” and make some assumptions about fishing dependency. Using these rankings and the rural-urban continuum code², six communities were chosen for rapid assessment as discussed in Section 4.1.

The rapid assessment procedure consisted of windshield surveying, key informant interviews and community mapping. The key informant interview schedule consisted of 15 open-ended questions about the community as a fishing community and its dependency upon commercial and/or recreational fishing (see Appendix VII). Key informants were local government officials and others identified as knowledgeable about the seafood industry and/or recreational fishing in the area by extension agents and other residents. Real estate developers were also interviewed in several communities when considered appropriate.

Summaries were then developed which highlighted the general consensus among key informants and included a community profile with a brief historical sketch of the community and surrounding area with a focus on fishing and related employment. The community profile and rapid assessments for the six communities are detailed in Section 5.

Although the preliminary fieldwork seem to verify the protocol for setting a ten mile radius, there was no field testing conducted within major urban areas. While it was assumed that the same ten mile radius would apply to the more densely populated communities of Miami, Jacksonville, Tampa-St. Petersburg, we can not say for certain that this is true. Future research should explore whether this same protocol can be verified in the more densely populated coastal communities and whether or not there is a shared sense of community within that radius.

2.4.4 Telephone Survey

A survey was conducted in each of the six fishing communities to determine if the community identification protocol was in agreement with the perception of residents of each community. The results are described in Section 5. The questionnaire included 79 questions and covered such topics as place attachment; fishing dependency; and community involvement. The responses to the questionnaire required between 20 and 40 minutes to complete by phone. Identical questionnaires were used in each study site. The full sample included over 1,200 respondents.

The sampling frame of the survey for the general population was drawn from randomly selected phone numbers within the aggregated zip codes for each community. The non-respondents were contacted five times on different days and different times. There were multiple reasons for non-response including 580 non-viable numbers (non-working, wrong number, and non-household), 49 were unavailable (out of town or deceased), and 11 did not speak English. Duplicates from the sampling frame were removed.

The questionnaire was designed to evaluate the existence of community indicators (as identified in Wilkinson, 1991: community must have location, local society, and community action) such as monuments, parks, organizations, community organization, community action, and distance traveled to meet daily needs (food, clothes, church, etc.). Specific questions examined the economic importance of commercial and recreational fishing. The questionnaire also explored the importance of fishing to the local culture, aesthetics, and the impact of other sectors of the economy (such as tourism). These questions served to gauge whether respondents considered the community economically and culturally dependent upon fishing.

Table 2.1. Response Rates for the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Fernandina Beach

City	Goal	Actual Completion	Completion Rate%
Cedar Key	170	155	91
Oak Hill	170	149	88
Panacea	170	128	75
Apalachicola	170	170	100
Marathon	195	197	100
Fernandina Beach	225	227	100
Total	1020	1026	100

2.5 Project Management

The principal investigators of this project were Dr. Steve Jacob and Dr. Suzanna D. Smith. Co-investigators included Dr. David Mulkey and Dr. Charles Adams. The project was coordinated by Michael Jepson. There were two graduate students who worked on the project, Carlton Pomeroy and Stephen Taranto. In addition, the project had an advisory panel consisting of the following individuals (see Appendix IV). The advisory panel met once in person, and input was gathered. Later, an asynchronous web board page was set up so the members would not incur travel costs.

The majority of the data collection and management was conducted by Michael Jepson. Carlton Pomeroy and Stephen Taranto gathered the majority of the community assessment data. The co-investigators and investigators met quarterly or more frequently to guide the project. The project final report was prepared by Steve Jacob, Michael Jepson, and Carlton Pomeroy.

Section 3.0: FISHING DEPENDENCE

3.1 Economic Multipliers and Commercial Fishing Dependency

In order to examine the issue of dependency it was decided that using economic multipliers with our employment figures derived from census data would be the most practical measure. Although, there are several caveats that must be considered when using census data. Census data may not truly capture the full economic representation of fishing employment since it does not include those who are self employed or employed part time, which is often the case in fishing communities. Furthermore, the Census has had difficulty collecting data from hard to find populations, of which some fishermen can be considered hard to find. Nevertheless, it was decided using this secondary data and Implan multipliers would still give the best indication of fishing dependency and was most likely the easiest to replicate. Unfortunately, the Implan multipliers are regional multipliers, so they must be applied to our community level data assuming some homogeneity within each region and therefore among communities within that region.

Various employment sectors within the fishing component were considered as choices. After examining their Implan multipliers, however, the Fish and Seafoods (SIC 5146) sector was chosen because it was assumed to best capture the backward linkages to commercial fishing and support industries, while at the same time capturing the forward linkages to markets. A multiplier for numbers employed was derived by dividing the total effects by the direct effects multiplier (See Appendix III). That number was then multiplied times the number employed in the Fish and Seafoods sector. The total number employed was divided by the total sector employment figure for each community. Total employment was the sum total of all SIC codes reported for each aggregated zipcode community as discussed earlier. The percentage was then used to create a commercial fishing dependence index similar to that used by the USDA for farming-dependent communities discussed earlier (see Figure 3.1).

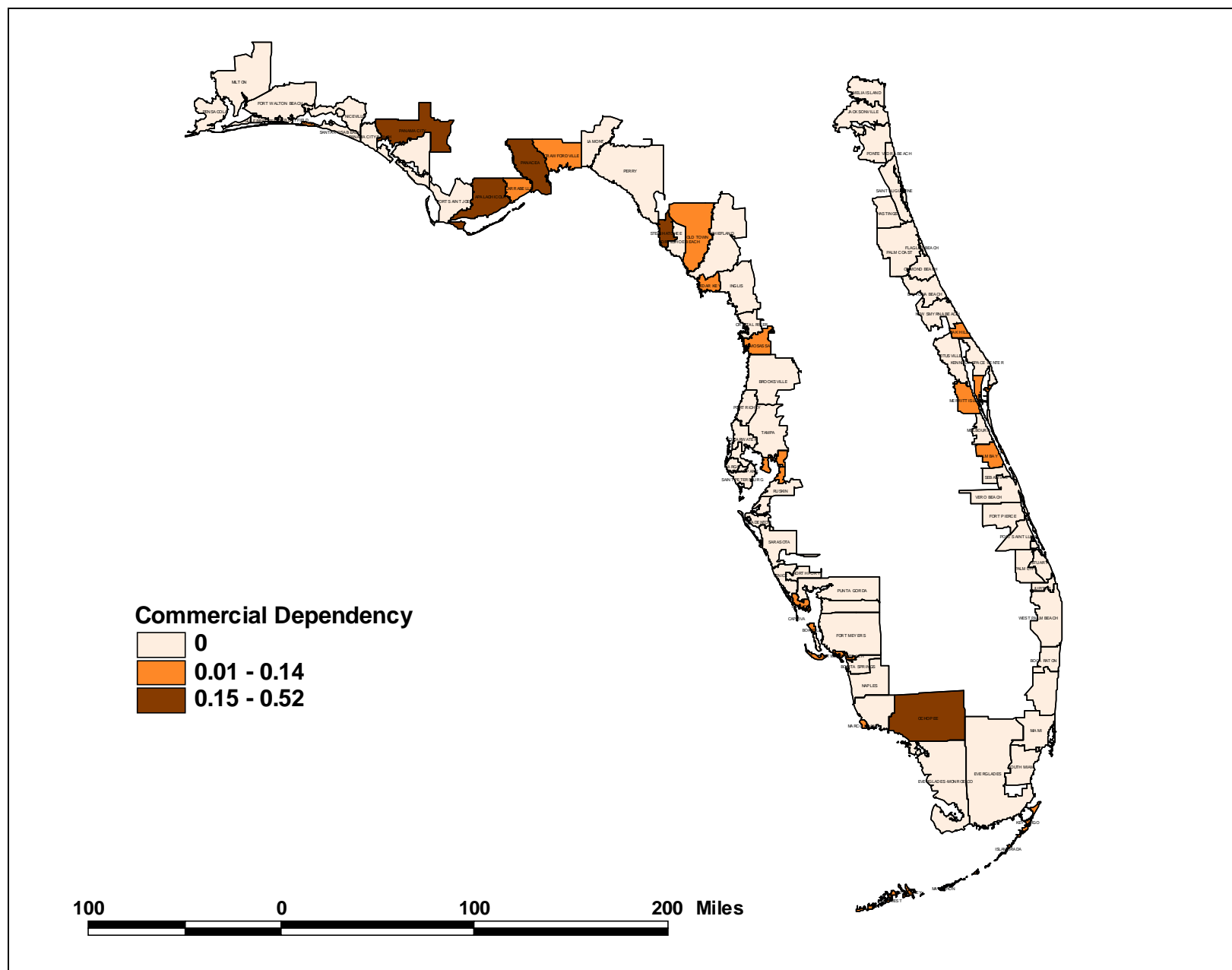


Figure 3.1. Commercial Fishing Dependency Index Expressed as Commercial Fishing Employment Divided by Total Employment for 1996.

3.2 Recreational Employment and Dependency

As discussed earlier the employment counts within the fishing employment sector were extracted for individual SIC codes which represented employment in both the commercial and recreational fishing sectors. One of those sectors (Fish and Seafood) was used with our economic multiplier to produce an employment figure which then was used to calculate a commercial fishing dependency index. Unfortunately, we were unable to acquire an economic multiplier for the Marina sector and therefore could not create a similar recreational dependency index.

As an exercise to understand how this data could be used to examine recreational fishing dependency it was decided to use employment figures generated by a recent report on employment at boat ramps along Florida's coasts (Thomas and Strait, 2001).

In their report, Thomas and Strait (2001) derived an average employment figure for publicly owned boat ramps. Granted, there are many caveats to be considered using this data, but as stated earlier, this is merely an exercise to consider how this data might be used to generate a recreational fishing dependency measure if other more comparable data were available from the census.

The average employment figure of 22 persons for each saltwater boat ramp was based upon 1,300 publicly owned boat ramps. The authors state that it is estimated that there are nearly 7,000 additional privately owned boat ramps. We applied this average employment figure to all marinas from the census data, which may include both private and public facilities. Therefore, the validity of this figure is somewhat questionable at best. It is likely that as a measure of recreational fishing dependence, this employment figure is highly underestimated because it measures such a small portion of the total linkages to the recreational sector. Nevertheless, for each instance of marina employment reported in the census data an average employment of 22 persons was applied and the sum total of all marina employment for each zipcode was then divided by total employment to derive the recreational dependence index found in Figure 3.2.

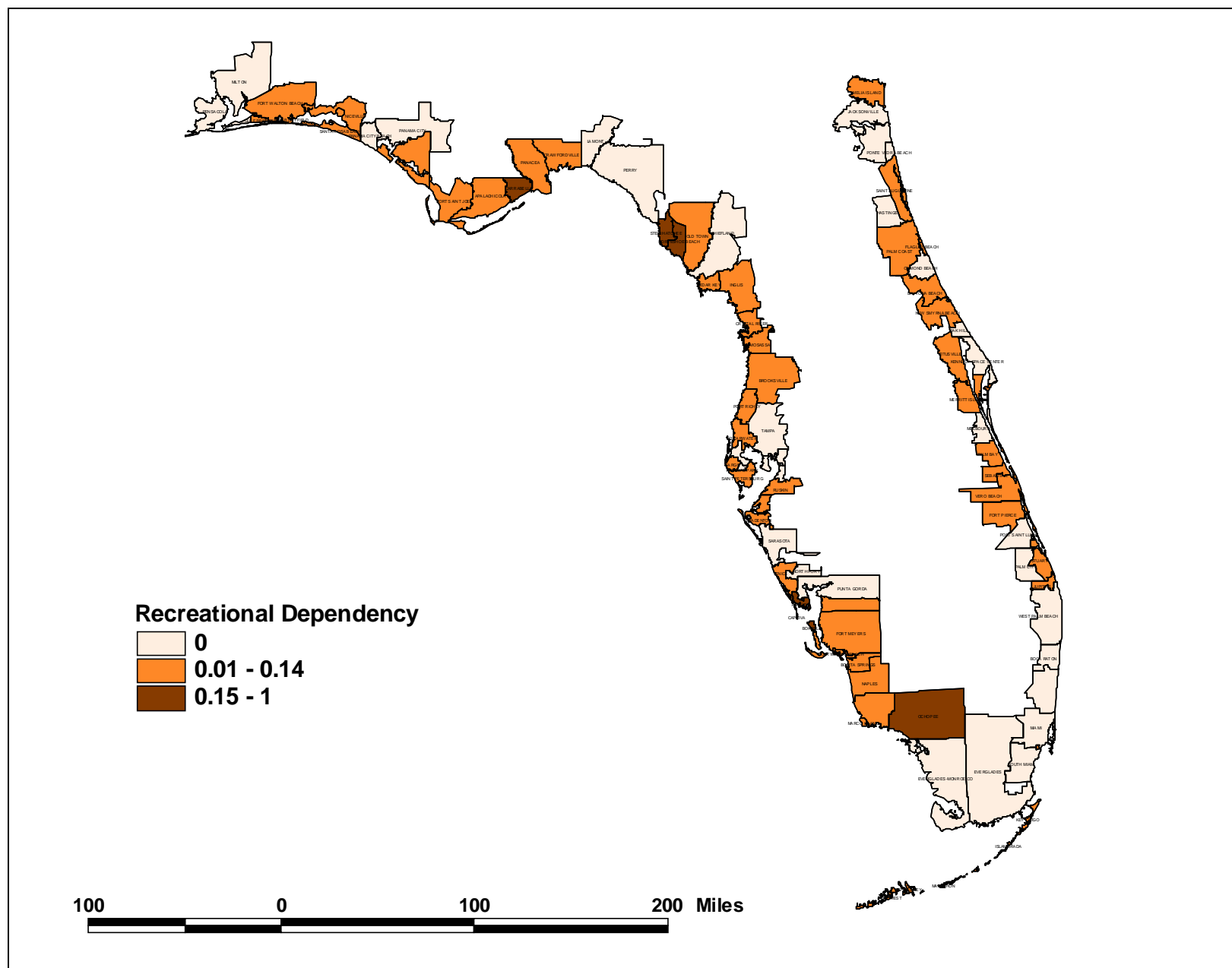


Figure 3.2. Recreational Fishing Dependency Index Expressed as Total Marina Employment Divided by Total Employment for 1996.

3.3 Commercial and Recreational Fishing Dependent Communities in Florida.

Using the data described in Section 3.1 and the initial definition developed in Section 2.2 we identified 5 commercially fishing dependent communities in Florida. All coastal communities and the percentage of jobs that are attributed to the fishing sectors used in the analysis are presented in table 3.1. We can say with a high degree of certainty that these five communities meet our fishing dependent definition due to the fact that the Community Business Patterns data is likely to underestimate the full extent of fishing employment in these communities. These communities are presented in ascending order from 52% to 0%. Most communities do have some fishing related jobs but because most other economic sectors are much larger these jobs represent only a fraction of one percent of jobs in the community. The communities that meet our definition of fishing dependent are:

Steinhatchee	.52
Apalachicola	.35
Panama City	.24
Ochopee	.16
Panacea	.15

Table 3.2 presents the recreational fishing data. This data as presented as an illustration of what could be possible if more reliable data were available. We do not recommend that this data be used for any purpose other than demonstration. Ideally these figured would be combined with the commercial dependence figures to determine fishing dependence. These figures that are presented are clearly “double count” jobs with the commercial dependent figures and therefore they cannot be combined as we had initially intended. Ironically, in many communities, it is likely that these figures underestimate recreational fishing dependence. We identified seven recreational fishing dependent communities:

Horseshoe Beach	1.00
Steinhatchee	.69
Ochopee	.28
Punta Gorda	.27
Placida	.24
Bokeelia	.23
Carrabelle	.15

Of course, if the data were reliable enough to combine the commercial dependence figures with the recreational dependence figures there would be only one additional community added, Cedar Key, which is likely to be fishing dependent, but we cannot say that with a high degree of certainty due to the unreliability of the recreational fishing data.

Overall we have identified ten unique fishing dependent communities in Florida. These communities meet our definition of fishing dependence (five commercial and seven recreational). Two communities were commercial and recreational dependent (Steinhatchee and Ochopee). Steinhatchee illustrates that the recreational variable does not discriminate

sufficiently between the commercial and recreational sectors because they sum to be over 100% employment.

**Table 3.1. Ranked Commercial
Dependency Index Scores**

Zipcode	Population Name	Commercial Dependency Index Score
32359	Steinhatchee	0.52
32320	Apalachicola	0.35
32409	Panama City	0.24
33943	Ochopee	0.16
32346	Panacea	0.15
32680	Old Town	0.08
32625	Cedar Key	0.07
32327	Crawfordville	0.06
32322	Carrabelle	0.04
33931	Fort Meyers Beach	0.04
32759	Oak Hill	0.04
33050	Marathon	0.03
33036	Islamorada	0.03
33922	Bokeelia	0.02
33037	Key Largo	0.02
33937	Marco Island	0.02
34446	Homosassa	0.02
33611	Tampa	0.02
33947	Placida	0.01
33043	Big Pine Key	0.01
32541	Destin	0.01
33040	Key West	0.01
32905	Palm Bay	0.01
32953	Merritt Island	0.01

**Table 3.2. Ranked Recreational
Dependency Index Scores**

Zipcode	Population Name	Recreational Dependency Index Score
32648	Horseshoe Beach	1.00
32359	Steinhatchee	0.69
33943	Ochopee	0.28
33955	Punta Gorda	0.27
33947	Placida	0.24
33922	Bokeelia	0.23
32322	Carrabelle	0.15
32625	Cedar Key	0.14
32320	Apalachicola	0.13
33050	Marathon	0.11
33037	Key Largo	0.11
33036	Islamorada	0.11
34449	Inglis	0.09
34997	Stuart	0.08
32327	Crawfordville	0.05
33043	Big Pine Key	0.05
33924	Captiva	0.05
33931	Fort Meyers Beach	0.05
33962	Naples	0.05
33937	Marco Island	0.04
32346	Panacea	0.04
34446	Homosassa	0.04
32541	Destin	0.03
32456	Port Saint Joe	0.03
33040	Key West	0.03
32905	Palm Bay	0.03
34947	Fort Pierce	0.03
32680	Old Town	0.02
32136	Flagler Beach	0.02
33923	Bonita Springs	0.02
32566	Gulf Breeze	0.02
34691	Clearwater	0.02
34285	Venice	0.02
32084	Saint Augustine	0.02
32169	New Smyrna Beach	0.02
32958	Sebastian	0.02
32578	Niceville	0.01
33954	Punta Gorda	0.01

34669	Port Richey	0.01
32118	Daytona Beach	0.01
33716	Saint Petersburg	0.01
34205	Bradenton	0.01
32404	Panama City	0.01
32780	Titusville	0.01
32547	Fort Walton Beach	0.01
33905	Fort Meyers	0.01
33469	Jupiter	0.01
32953	Merritt Island	0.01
34601	Brooksville	0.01
32967	Vero Beach	0.01
32034	Amelia Island	0.01
32137	Palm Coast	0.01
33570	Ruskin	0.01
33146	Miami	0.01
32407	Panama City Beach	0.01
32459	Santa Rosa Beach	0.01
33999	Naples	0.01
34640	Largo	0.01
34429	Crystal River	0.01

Section 4.0: GOAL 2. TO EMPIRICALLY EVALUATE THE DEFINITION OF FISHING-DEPENDENT COMMUNITIES AND THE IDENTIFYING PROTOCOL

4.1 Objective 1. To develop a typology that differentiates Florida fishing-dependent communities into categories based on region and economic structure.

Our first project goal was to develop a protocol and definition for identifying fishing dependent communities. Our second project goal was empirically evaluate the effectiveness of the protocol and definition. This work begins with construction of the typology (Table 4.1).

Table 4.1. Aggregated Community Identification Variables.

Community	Rural/Urban Continuum Code	Population	1996 SPL Permits	1996 Landings	Difference between 94/96 SPL	Fish Employment Diff 94/96
Apalachicola	7	6,959	748	5,925,153	97	11
Panacea	8	5,495	147	2,701,691	21	66
Fernandina Beach	2	30,471	115	1,437,555	-1	-44
Marathon	4	12,745	854	11,213,016	-16	30
Oak Hill	2	2,534	145	439,062	-4	0
Cedar Key	8	1,309	164	2,171,265	0	-8

To test the sensitivity of the definition of fishing dependent communities (FDCs) to such a broad reaching event as the net ban, data from two time points were utilized. First, communities were defined and identified across the state of Florida. Secondary data for both 1994 (pre net ban) and 1996 (post net ban) was gathered for all the Florida communities. We selected communities that best reflected fishing communities that: 1) grew in saltwater professional licenses and employment from 1994-1996, 2) that lost in saltwater professional licenses and employment from 1994-1996, and 3) saw little change in saltwater professional licenses and employment from 1994-1996. These three categories then were sorted by community location on the Gulf of Mexico coast or on the Atlantic Ocean coast. This gulf/ocean distinction was critically important due to a great amount of variation in gear used, species targeted, and community structure related to coastal location.

At the end of this process all Florida coastal communities were placed into 6 potential categories: 1) Atlantic Coast--growing; 2) Atlantic Coast-- declining; 3) Atlantic Coast--neutral; 4) Gulf Coast--growing; 5) Gulf Coast-- declining; 6) Gulf Coast--neutral. One community from each of the 6 potential categories was chosen for intensive case study. Secondary data analysis as well as site inspection in various sites was used to select the six sites for in-depth study. In addition, the research team felt that it was necessary to select sites from different regions throughout the state in an attempt to capture the diversity of fishing dependence that exists in Florida. The case study sites will be chosen on the following criteria: 1) maximizing geographical distribution within the state of Florida; 2) maximizing variation in population size; and 3) maximizing variation in economic structure (recreational/commercial).

The rural-urban continuum codes listed above are for counties and reflect population size and commutation patterns. We sought to choose communities in a diversity of rural and urban contexts because these contexts represent the economic and social milieu that the community is

embedded in. We did not want to study communities in just a single context, such a rural remote places. The rural-urban continuum codes were developed by Economic Research Service, United States Department of Agriculture using the 1990 county census data for population and commutation patterns. The codes are: 0) Central counties of metro areas of 1 million population or more. 1) Fringe counties of metro areas of 1 million population or more. 2) Counties in metro areas of 250,000 to 1 million population. 3) Counties in metro areas of fewer than 250,000 population. Nonmetro counties: 4) Urban population of 20,000 or more, adjacent to a metro area. 5) Urban population of 20,000 or more, not adjacent to a metro area. 6) Urban population of 2,500 to 19,999, adjacent to a metro area. 7) Urban population of 2,500 to 19,999, not adjacent to a metro area. 8) Completely rural or less than 2,500 urban population, adjacent to a metro area. 9) Completely rural or less than 2,500 urban population, not adjacent to a metro area.

The three communities selected (see Table 4.1) for the Atlantic shore were: 1) Marathon, 2) Fernadina Beach, and 3) Oak Hill. The three communities selected for the Gulf of Mexico shore were: 1) Panacea, 2) Cedar Key, and 3) Apalachicola. Marathon represented a community on the Atlantic shore that gained 30 fishing jobs in the period after the net ban, however these gains were offset by the loss of 16 saltwater professional licenses. Fernadina Beach lost one saltwater professional license and 44 jobs in fishing employment, therefore they represent an Atlantic community who lost fishing employment. Oak Hill represents an Atlantic shore community that was neutral in fishing employment over the two-year period. Oak Hill lost four saltwater professional licenses and no jobs. Panacea represented a Gulf of Mexico community that was growing both in saltwater professional licenses and jobs. Cedar key is a Gulf coast community that had zero growth in saltwater professional licenses and lost eight jobs and therefore is classified as a declining community. Apalachicola, a gulf community, gained the most saltwater professional licenses, but there were already a great deal of licenses and the percentage increase is not great compared to the other coastal communities. Additionally, Apalachicola was only average in increase for all coastal communities in fishing employment, even when there were 748 saltwater professional licenses in the community. As a result Apalachicola represents a community that is neutral in the two-year period. We hypothesized that community residents identification of fishing dependence would vary in each community type.

5.1 Cedar Key

5.1.1 History

The Cedar Keys are located approximately halfway between St. Marks and Tampa on Florida's Gulf Coast, approximately 50 miles west of Gainesville, Florida. The City of Cedar Key is on the island of Way Key, the largest of the Cedar Keys. The city of Cedar Key is one of eight incorporated cities within Levy County.

Archaeological evidence suggests that Weeden Island Indians first inhabited the Cedar Keys around 500 BC. The area has a number of large oyster shell mounds that suggests a culture dependent on the bivalves as a primary food source. Evidence found in the shell mounds indicates that the mounds functioned as platforms for the dwellings of the village leaders and as spots for worship of the sun. Around 800 AD, the Weeden Island Indians were absorbed or merged with Timucans, Apalachee, or Tocobago Indians. As a result of that merger, the precise local tribe is not known.

The first recorded settlement of the Cedar Keys was in 1840 when General Zachary Taylor recommended that they be used as a military base, depot, and camp for Indian prisoners. During the Second Seminole War, in November 1842, Seminole Chief Thlocko Tustenuggee surrendered at Cedar Key. Soon after that event, the military base was moved south. Upon abandonment of the base, a few fishermen remained and utilized the buildings constructed by the army.

When the Indian Wars ended, most of the settlers that came to Cedar Key were lumbermen and naval stores men (Clarke, 1943). It was David Levy Yulee, known as the "Step-Father of Cedar Key," who was responsible for Cedar Key's development during this time. As the Territorial Delegate of Florida in Congress, he urged that Jacksonville and Cedar Key become the terminal points for a railroad that connected the Atlantic and Gulf Coasts. Cedar Key served as a transportation hub for several decades (Fishburne, 1982).

The economic history of Cedar Key can be described as a series of phases of dependence and over-exploitation of the natural resources. In the late 1880's Cedar Key was dependent on the timber industry, which quickly peaked and depleted the local forest resources. Upon the withdrawal of the timber industry, Cedar Key became dependent on the Gulf. Before the Spanish-American War, the seafood market focused on fish and turtles. An oyster canning plant provided the majority of employment for the town's population before it closed in 1909, with the decline of the resource. In 1910, the opening of a fiber plant provided an alternative stable source of employment for the residents. It also shifted the focus away from the fishing industry. After thirty-two years in operation, the fiber plant closed (Burtchaelli, 1949). Currently, tourism and a service-based economy are emerging in Cedar Key. Now, fishermen have to compete with the tourist industry, the artist community, merchants, and developers to survive.

One of the major turning points in the history of Cedar Key came on November 8, 1994. Through a statewide referendum, Florida voters passed a constitutional amendment prohibiting the use of entangling nets in all Florida waters, as well as other nets larger than 500 square feet

of mesh area in near-shore and inshore waters. The controversy essentially boiled down to a hot debate between recreational and commercial fishermen, the tension best explained by the respective mottos: "Save our Sea life" versus "Save Our Jobs." Recreational fishermen portrayed the need to protect disappearing fish resources from alleged commercial over-fishing. Commercial fishermen presented a very different dilemma—protecting jobs and a way of life.

The constitutional amendment threatened to devastate Cedar Key. The community contained numerous families that had been fishing from Cedar Key for as many as six generations. Fishing was also the focal point of social interaction in the town. Politics, commerce, and festivals all revolved around fishing. Fishing was more than just a livelihood in Cedar Key, it was a way of life and part of the community identity. The amendment therefore threatened economic prosperity as well as the cultural heritage of the community.

The State had initiated an aquaculture program near the time of the net ban. The government-funded program taught locals how to raise and harvest clams. The Cedar Key Satellite Facility opened in 1991 by the Harbor Branch Institute when Project OCEAN (Oyster Clam Educational Aquaculture Network) was funded. Project OCEAN was supported with funds from the Job Training Partnership Act to retrain fisheries workers in Levy and Dixie Counties. At the completion of Project OCEAN, Harbor Branch continued its commitment to the developing clam industry by maintaining the field station in Cedar Key to provide clam seed and technical assistance to the new farmers. To help the new industry, Florida has been leasing some 1,100 shallow, one-acre saltwater plots near Cedar Key for clam farming. After a \$200 application fee, fishermen paid \$20 annually per plot for each 10-year renewable lease.

There are now approximately 200 clam operations in the Cedar Key area. Most are one or two person businesses, but larger operations are starting up. There are several support businesses that have developed. Specifically, there are several businesses that make the clam nursery bags. Additionally, there is now a secondary market for the saltwater plot leases, with some going for as much as \$10,000. It is now common for clammers with multiple leases to sometimes sell a lease to pay for fishing equipment. Clam aquaculture has been growing rapidly and has made those directly involved in the industry optimistic about the future. Further, the clam business has been crossing traditional fishing industry dividing lines by attracting the young and old, men and women.

In addition, Cedar Key has a diversified economy. It has become a haven for artists and writers. The city has also expanded its tourism sector by taking advantage of remarkable scenic beauty as well as the variety of migratory and shore birds. The community has also promoted tourism through the Spring Sidewalk Art Festival and the Fall Seafood Festival, which routinely attracts thousands of visitors to the area.

Cedar Key is unique from other towns in Levy County, where it is located, in three ways: 1) the economic structure relies on tourism and seafood rather than farming or timber; 2) Cedar Key has a clearly distinguishable downtown sector with the post office, city hall, general store, hotels, restaurants, banks, and shops all located within the same four-block radius; 3) Cedar Key has no black residents in a county that is 12.4 percent black (Dye, 1992). The next section examines key demographic indicators of the citizens of Cedar Key.

5.1.2 Census Demographics

Cedar Key is unique because of its remote location. Cedar Key is a city on a group of islands four miles out into the Gulf of Mexico. Cedar Key is accessible by automobile by only one route on bridges and causeways. The land area of Cedar Key is only .85 square miles (546 acres). Federally protected sanctuaries surround the town and limit further development outside of the city.

Many residents of Cedar Key must travel long distances to work. Nonetheless, Census data show that Cedar Key is growing. There have been increases in the number of both inhabitants and housing units. There also has been a decrease in fishing employment coupled with an increase in service industry employment.

5.1.2.1 Age Distribution

The most notable trend in Cedar Key is that the population is aging and is significantly older than that of Levy County. This is especially apparent in the increase of the population that is aged sixty-five and older and over for the period of 1970 to 2000. In Cedar Key, the group aged 65 and older has increased from 23.47% of the population in 1980 to 32.79% in the year 2000 (see Table 5.1.1). This is much higher than the proportion aged 65 and older in Levy County, which has seen large fluctuations in that age group (21.28% in 1970, a low of 11.82% in 1980, and a rebound to 17.92% in the year 2000).

Consistent with the aging of the Cedar Key population is the trend that the number of persons aged 0-24 has declined from 28.5% in 1980 to 16.4% in 2000 (see Table 5.1.1). In Levy County, there has also been a decline in the proportion in this age group, but the decline has been much less pronounced (from 39.27% in 1980 to 30.48% in 2000). The proportion of population between the ages 25-64 in both Cedar Key and Levy County are somewhat similar, and are within 3% or 4% in each time period.

Table 5.1.1. Census Demographic Information for Levy County and Cedar Key.

Age Distribution	Location	1970	%	1980	%	1990	%	2000	%
Persons Age 0-24	Levy County	5,914	39.27%	8,715	40.16%	9,702	35.82%	10,500	30.48%
Persons Age 0-24	Cedar Key			191	28.55%	163	23.9%	142	16.4%
Persons Age 25-64	Levy County	5,939	39.44%	9,807	45.2%	14,182	52.36%	17,778	51.61%
Persons Age 25-64	Cedar Key			321	47.98%	380	55.72%	440	50.81%
Persons Age 65+	Levy County	3,205	21.28%	3,176	14.64%	3,203	11.82%	6,172	17.92%
Persons Age 65+	Cedar Key			157	23.47%	139	20.38%	284	32.79%

5.1.2.2 Housing Units Information

The population growth of Levy County and Cedar Key has created a demand for new housing units. There was an increase from 4,760 units in 1970 to 12,307 in 1990 in Levy County and an increase in the units from 446 to 498 in Cedar Key for the same time period (2000 data is

not yet available). There was also some construction of units built in the last 0-5 years and 6-10 years in both Levy County and Cedar Key (See Table 5.1.2). The increase in the total number of units built is particularly significant in Cedar Key. Though the number of units is relatively small, the limited amount of space available for construction has had a noticeable impact on the island. There has also been a conscience effort to limit the amount of high-rise development in order to maintain the ambience of a small fishing village. This has put a premium on local property values in Cedar Key.

Table 5.1.2. Housing Units for Levy County and Cedar Key.

	Location	1970	%	1980	%	1990	%
Total Household Units	Levy County	4,760		8,607		12,307	
Total Household Units	Cedar Key			446		498	
Units Built 0-5 Year	Levy County			1,981	23.02%	2,368	19.24%
Units Built 0-5 Year	Cedar Key			47	10.54%	63	12.65%
Units Built 6-10 Year	Levy County			2,300	26.72%	2,465	20.03%
Units Built 6-10 Year	Cedar Key			74	16.59%	86	17.27%

5.1.2.4 Racial Distribution

There is very little racial diversity in Cedar Key, especially when compared to Levy County (see Table 5.1.3). Between 98% and 99% of Cedar Key was white according to the Census of 1980 through 2000. Levy County has seen an increase its African American population from .71% in 1970 to 10.89% in 2000. The 2000 census showed that there was one African American in the City of Cedar Key.

5.1.2.5 Educational Attainment

Overall, the town of Cedar Key has a higher proportion of individuals with higher education levels than Levy County (see Table 5.1.3). In 1990, the Census revealed that 14.19 % of the population of Levy County completed between 0 and 8 years of education, 23.46% between 9 and 11 years, 35.60% with a high school diploma, 14.92 between 13 and 15 years, and 8.41 had a college degree. In Cedar Key 12.53 % completed between 0 to 8 years of education, 13.96% between 9 and 11 years, 36.96% with a high school diploma, 17.86 between 13 to 15 years, and 17.45% had a college degree. Key informant interviews revealed that there was a great deal of community interest in educational achievement with yearly articles in the local paper about the graduating class and their future plans.

5.1.2.6 Industry

There was a gradual decrease in the proportion of employment in agriculture, fishing, and mining, in both Levy County (13.41% in 1970 to 8.34% in 1990) as well as Cedar Key (17.29% in 1980 to 11.96% in 1990; see Table 5.1.4). There was also a decline in manufacturing, durable manufacturing and construction in Levy County. Cedar Key witnessed a decline in construction and wholesale and retail transportation. Both Cedar Key and Levy County witnessed a substantial increase in their employment in the service industries.

Table 5.1.3. Racial Distribution and Educational Attainment for Levy County and Cedar Key.

Racial Distribution	Location	1970	%	1980	%	1990	%	2000	%
White Persons	Levy County	9,551	97.67%	16,555	98.2%	22,443	98.06%	29,586	85.25%
White Persons	Cedar Key			661	98.66%	659	99.7%	770	98.34%
African American	Levy County	70	0.71%	41	.24%	5	.02%	3,778	10.89%
African American	Cedar Key							1	0.12%
Latino	Levy County	158	1.61%	263	1.56%	438	1.91%	1,339	3.85%
Latino Persons	Cedar Key			9	1.34%	2	.30%	12	1.53%
Educational Attainment	Location	1970	%	1980	%	1990	%		
Age of 25+ w/ 0-8 Years of Education	Levy County	3,127	38.48%	3,114	23.81%	2,458	14.19%		
Age of 25+ w/ 0-8 Years of Education	Cedar Key			132	25.98%	61	12.53%		
Age of 25+ w/ 9-11 Years of Education	Levy County	1,560	19.2%	2,606	19.93%	4,064	23.46%		
Age of 25+ w/ 9-11 Years of Education	Cedar Key			97	19.09%	68	13.96%		
Age of 25+ w/ HS diploma	Levy County	1,697	20.88%	4,330	33.11%	6,167	35.60%		
Age of 25+ w/ HS diploma	Cedar Key			149	29.33%	180	36.96%		
Age of 25+ w/ 13-15 Years of Education	Levy County	397	4.88%	1,377	10.53%	2,585	14.92%		
Age of 25+ w/ 13-15 Years of Education	Cedar Key			51	10.04%	87	17.86%		
Age of 25+ w/ College Degree	Levy County	367	4.51%	964	7.37%	1,457	8.41%		
Age of 25+ w/ College Degree	Cedar Key			49	9.64%	85	17.45%		

Table 5.1.4. Industries in Levy County and Cedar Key.

Industry	Location	1970	%	1980	%	1990	%
Agriculture, Fishing, and Mining	Levy County	650	13.41%	796	12.76%	821	8.34%
Agriculture, Fishing, and Mining	Cedar Key			37	17.29%	36	11.96%
Construction	Levy County	551	11.37%	940	15.07%	969	9.85%
Construction	Cedar Key			24	11.21%	4	1.32%
Business Services	Levy County	116	2.39%	189	3.02%	384	3.90%
Business Services	Cedar Key			6	2.80%	10	3.32%
Communication/ Utilities	Levy County	96	1.98%	350	5.61%	472	4.79%
Communication/ Utilities	Cedar Key			6	2.80%	11	3.65%
Manufacturing	Levy County	625	12.89%	755	12.10%	697	7.08%
Manufacturing	Cedar Key			3	1.40%	13	4.31%
Durable Manufacturing	Levy County	519	10.71%	497	7.96%	510	5.18%
Durable Manufacturing	Cedar Key			3	1.40%	10	3.32%
F.I.R.E.	Levy County	111	2.29%	342	5.48%	419	4.25%
F.I.R.E.	Cedar Key			4	1.86%	13	4.31%
Services	Levy County	1178	24.3%	897	14.38%	3,078	31.29%
Services	Cedar Key			21	9.81%	109	36.21%
Wholesale/ Retail Transportation	Levy County	846	17.45%	1,312	21.03%	2,264	23.01%
Wholesale/ Retail Transportation	Cedar Key			109	50.93	91	30.23%
Transportation	Levy County	155	3.19%	161	2.58%	224	2.27%
Transportation	Cedar Key			1	0.46%	4	1.32%

5.1.2.7 Average Salary

There was an increase the average wage from \$5,951 per year in 1970 to \$22,947 in 1990 for Levy County and \$6,410 per year in 1980 to \$22,232 in 1990 for Cedar Key. On the whole these statistics show a dramatic improvement in the well-being of the citizens of the town of Cedar Key and Levy County as the economies have diversified.

5.1.3 General and Fishing Employment for 1994 and 1996

This section relies upon data for the aggregated zipcodes representing the community of Cedar Key. Data was obtained from the Zipcode Business Patterns from the U.S. Department of Commerce. An emphasis was placed on the percentage of employment provided by fishing as compared to other occupational sectors as an indicator of economic fishing dependency.

In 1994 (Table 5.1.5), the retail industry provided the most employment with 52.09%, followed by the service industry with 28.74% of jobs, and finance with 11.67%. Fishing played a minor role in local employment providing only 3.89%. Employment in fishing showed an increase to 7.92% in Cedar Key in 1996. The service sector and retail sector provided 22.60% and to 61.50% of the community employment in their respective categories for 1996. Construction grew to 8.30% of the local employment and finance experienced the fastest growth contributing 22.60% of the community employment.

5.1.3.1 Fishing Employment for 1994 and 1996

Table 5.1.6 showed that the majority of the employment in the fishing sector for 1994 came from fish and seafood (53.84%) and from the marinas (46.15%). In 1996 fish and seafood, marinas, and fishing, hunting, and trapping were tied with 33.33 in their respective categories.

Table 5.1.5. Employment by Sector within Cedar Key during 1994 and 1996.

Employment in 1994	Number of Employees	Percent
Retail	174	52.09%
Manufacturing	0	.0%
Agriculture	0	.0%
Construction	6	1.79%
Finance	39	11.67%
Transportation	3	.89%
Mining	0	.0%
Wholesale Trade	3	.89%
Fishing	13	3.89%
Service	96	28.74%
Employment in 1996	Number of Employees	Percent
Retail	163	61.50%
Manufacturing	3	1.13%
Agriculture	0	.0%
Construction	22	8.30%
Finance	53	20%
Transportation	3	1.13%
Mining	0	.0%
Wholesale Trade	0	.0%
Fishing	21	7.92%
Service	60	22.60%

Table 5.1.6. Fishing Employment by Sector in Cedar Key during 1994 and 1996

Employment in 1994	Number of Employees	Percent
Fish and Seafoods	7	53.84%
Marinas	6	46.15%
Fresh or Frozen Prepared Fish	0	0%
Canned and Cured Fish and Seafoods	0	0%
Fishing, Hunting, and Trapping	0	0%
Employment in 1996	Number of Employees	Percent
Fish and Seafoods	7	33.33%
Marinas	7	33.33%
Fresh or Frozen Prepared Fish	0	0%
Canned and Cured Fish and Seafoods	0	0%
Fishing, Hunting, and Trapping	7	33.33%

5.1.4 Key Informant Interviews

The key informants contacted in Cedar Key described a fishing community as “something that goes back many generations.” The boat building of the 1900’s was often mentioned as a traditional example. Respondents described fishing as part of the community social structure. Respondents related that commercial and recreational fishing is a focal point of discussion among residents. Respondents described a community where only a few fishing families comprised the power structure of Cedar Key. Fishing is still important occupation in Cedar Key, as four out of five of the city commissioners are clambers and former fishermen. Overall, the respondents considered fishing as the dominant cultural aspect of the town. This could be seen in the large number of clam bags and crab traps that are clearly visible around the community. Other distinct characteristics identified with Cedar Key were the “laid back” atmosphere and a sense of trust between the residents.

Respondents reported that the net ban was a milestone in community history of Cedar Key. The net ban “destroyed a way of life” and also changed the town. Many individuals stated that there were a lot of people out of work and that many people felt betrayed, hurt, and a lot of emotional damage during that time period. Another milestone was the development of the hard clam aquaculture industry. After hurricane Elena, Project Ocean was introduced to assist local fishermen. In 1991 there were 170 individuals enrolled in the program. It took two years to get the shallow water leases from the state. Project Wave started in 1995 in response to the net ban. The idea was to retrain the fishermen in hard clam aquaculture so they could maintain their livelihoods. There were 100 people that were trained and the project has been very successful. Respondents stated the participant’s success has depended on their capacity to plan and save money. They also stated that the state and the banks have been active making loans available.

A current trend has been the rapid construction of new residences. Our key informants stated that there has been a cultural change that has accompanied this construction. One respondent stated; “Those people that are coming in say that they love the town, but when they get here they then want to change it.” Respondents also reported that the new development has increased the cost of living in Cedar Key. Scarce housing and increased demand have driven up the cost of housing and of local property taxes. Several key informants reported a 400% increase in property taxes. Respondents suggested that many long-term fishers and residents have moved rather than paying this increased property tax. One respondent said “they can sell a ½ acre here and buy 20 acres outside of the town.” Most respondents felt that the rapid growth of the town will continue because Cedar Key had been “discovered.”

Cedar Key has historically been a natural resource dependent community, where the fishing industry helped to draw people together socially, through families, work, conversation, and community action. There have been recent significant changes in the community as seen in the demographic and economic summary and key informant interviews. The key informant interviews revealed the continued importance of fishing in the community and that clamming has helped to revitalize the local economy. These interviews identified the key issues as increased property values, increased population density, and provision of basic services. There has been a general consensus that both clamming and tourism were the driving forces in the economic well-being of the community.

5.1.4.1 Cedar Key Telephone Survey Demographics

The following is a description of the telephone survey sample of Cedar Key residents, consisting of 155 residents. Respondents educational attainment was as follows: 15.8% percent had received a graduate or professional degree, 18.70% were college graduates, 29.03% had some college education, 4.51% had vocational and technical degrees, and 25.80% were high school graduates (see Table 5.1.7). Over 96% of the respondents reported they were white. The largest minority group was Hispanics at 2.58%. The majority of respondents were married 58.3%, 10.32% were divorced, 19.35% were single, and 11.61% were widowed. Some 63.8% of the respondents were male and 88.3% owned their homes. The mean age was 52.23 years and the mean length of residency was 19.62 years. The majority of respondents were working full time (see Table 5.1.8). Only 12.9% of the respondents sought employment outside of the town. Over 34% of the respondents were retired (see Table 5.1.8)

5.1.4.2 Dependency

This section of the survey examines issues of commercial and recreational fishing dependency, the importance of fishing to local culture, tourist dependency, and the linkage between tourism and fishing. The survey responses suggested that fewer than 10% of the people work in the fishing industry. Clamming, which was identified as having a significant impact on local employment, was categorized under farming and accounted for 8.32% of the occupations (see Table 5.1.8). Professional, services, and retail were the major occupational category responses with 16.77%, 14.19%, and 7.09% in their respective categories.

Respondents reported that over 40% of community members were involved in commercial fishing (a great overestimate) and also reported that over 43% were involved in recreational fishing (see Table 5.1.9). When examining the importance of commercial fishing, recreational fishing, and tourism to the local economy, Commercial fishing was ranked a mean of 2.51, tourism, a mean 2.19, and recreational fishing a mean of 1.35. The mean for the categories were calculated with 1 being the least important and 3 being the most important (most; see Table 5.1.10). Overall, respondents considered commercial fishing the most important economic activity in the town followed by tourism, and then recreational fishing.

Table 5.1.7. Demographics for Cedar Key.

Gender		
	Frequency	%
Male	106	68.38%
Female	49	31.61%
Marital Status		
Single	30	19.35%
Married	91	58.70%
Divorced	16	10.32%
Widow	18	11.61%
Education		
8th grade or less	2	1.29%
Some high school	8	5.16%
High school graduate	40	25.80%
Technical/Vocational	7	4.51%
Some college	45	29.03%
College graduate	29	18.70%
Graduate school/ Professional	24	15.48%
Race		
African American	1	.7%
White	147	96.1%
Asian	1	.7%
Other	4	2.6%
Hispanic Origin		
No	148	98.00%
Yes	3	2.00%
Living Situation		
Own home	136	88.30%
Rent home	14	9.1%
Live with parents	3	1.9%
Age (M=52.33, SD=16.78)		
0-24	10	6.5%
25-64	107	69.9%
64+	36	23.5%
Years in the Community		
	M	SD
Years	19.62	18.00

Table 5.1.8. Employment Demographics for Cedar Key.

Employment Status	Frequency	%
Full time	80	51.61%
Part time	22	14.19%
Not employed/ retired/ disabled	53	34.19%
Place of Work		
Outside	20	12.90%
Inside	82	52.90%
Retired/ Don't Work	53	34.19%
Occupation		
Not Employed	53	34.23%
Agriculture	13	8.38%
Clerical	7	4.51%
Fishing	11	7.09%
Manufacturing	2	1.29%
Professional	26	16.77%
Retail	11	7.09%
Services	22	14.19%
Other	10	6.45%

Table 5.1.11 presents the perceived economic and social importance of fishing to the local community. The responses, coded 0 = no and 1 = yes, can be represented as a percentage. The majority of the respondents stated the economy was fishing dependent (64.42%). Both commercial and recreational were important, 62.50% responded that commercial fishing dependent and 50.34% of the respondents stated the economy was dependent on recreational fishing.

Table 5.1.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Cedar Key According to Responses.

Percentage of Residents involved in Commercial Fishing Industry	40.76%
Percentage of Residents involved in Recreational Fishing Industry	43.09%

Table 5.1.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In Cedar Key

	Least	%	Next	%	Most	%	M	SD
Rank of Commercial Fishing	21	13.82%	33	21.71%	98	64.47%	2.51	.73
Rank of Recreational	103	68.21%	43	28.48%	5	3.31%	1.35	.54
Rank of Tourism	24	15.69%	76	49.67%	53	34.64%	2.19	.69

Table 5.1.11. The Importance of Fishing to the Local Economy in Cedar Key.

	No	%	Yes	%	M	SD
Economy is Commercially Fishing Dependent	53	35.57%	96	64.42%	.64	.48
Contribution of Charter Fishing to the Local Economy	69	50.73%	67	49.26%	.49	.50
Impact of Fishing Regulations on the Ability to make a Living	41	27.89%	106	72.10%	.72	.44
Importance of Fishing to the Local Culture	6	3.89%	148	96.10%	.96	.19
Economy is Tourist Dependent	30	20.54%	116	79.45%	.79	.40
Economy is Dependent on Recreationally Fishing	73	49.65%	74	50.34%	.50	.50
Commercial Fishing is an Important Draw for Tourist	54	37.50%	90	62.50%	.62	.48
Commercial Fishing is Attractive to the Local Landscape	29	19.72%	118	80.27%	.80	.39

The overwhelming majority (96.10%) of respondents also replied that the commercial fishing was important to the local culture (see Table 5.1.11). Approximately 80% also found commercial fishing attractive to the local landscape. There was a strong linkage between the fishing culture and tourism with 62.50% reporting that commercial fishing was an important attraction for tourists. When coupled with the 79.45% that felt that the economy was tourist dependent the strong association between the cultural heritage of fishing and tourism seems important.

5.1.4.3 Community

Wilkinson (1991) defined community as being composed of a locality, local society, and collective actions. Locality is indicated by the physical boundaries of the community. Local society is composed of groups and institutions by which people satisfy their, physical, emotional, and social needs. Last, community action is the interaction between actors who purposively attempt to improve the community.

Table 5.1.12 presents the community indicators of locality, local society, and community action. The responses, coded 0 = no and 1 = yes, are represented as a percentage of yes responses. Some 98.05% reported there were community celebrations and 94.70% expressed there was a major event in the community's past (see Table 5.1.12). These indicators showed a shared community history as well as current activities identified by the vast majority of the respondents, both were strong indicators of local society.

Table 5.1.12. The Existence of Community Indicators in Cedar Key.

	No	%	Yes	%	M	SD
Existence of a Community Monument	61	41.22%	87	58.78%	.59	.49
Existence of a Tourist Center	20	12.99%	134	87.01%	.87	.34
Sign to Mark the Community Border	45	32.14%	95	67.86%	.68	.47
Central Community Focal Point	22	14.19%	133	85.81%	.86	.35
Periodic Community Celebration	3	1.94%	151	98.05%	.98	.14
Community Owned Cemetery	1	.66%	149	99.33%	.99	.08
Community Band	104	76.47%	32	23.53%	.24	.43
Community Wide Project Over the Last Five Years	27	18.62%	118	81.38%	.81	.39
A Building for Community Meetings	35	23.18%	116	76.82%	.77	.42
Citizens Organization to Improve the Community	22	14.86%	126	85.14%	.85	.36
Group to Encourage Community Growth	48	33.57%	95	66.43%	.66	.47
Major Event in the Community's Past	8	5.29%	143	94.70%	.95	.22

The existence of a group to encourage community growth, citizen's organization to improve the community, and a building for community meetings were designed as indicators of community action (see Table 5.1.12). The responses ranged from 66.43% to 85.14% and showed that the majority of the respondents felt that there was community-oriented action. The existence of a community monument, a tourist center, sign to mark the community border, central community focal point, and a community owned cemetery were used as community indicators for both the locality and local society (see Table 5.1.12). The responses ranged from 58.78% to 99.33%.

Table 5.1.13 presents the results from questions designed to measure the local society by investigating the capability of local residents to meet most of their daily needs inside the community. The results were mixed with majority of respondents being able to go to the bank and go to church within a ten-mile radius. The respondents generally bought their clothes, groceries, medical services, and repaired their car beyond the ten miles. The key informant interviews revealed that there were groceries, clothes, medical services, and car repair available in Cedar Key, but all are cheaper by traveling to Gainesville or Chiefland.

Table 5.1.13. The Distance Traveled In Order to Satisfy Needs in Cedar Key.

Distance/ Miles to Travel	<1	%	1-3	%	4-6	%	7-10	%	10+	%
Distance to Buy Clothes	4	2.59%	4	2.59%	1	.65%	3	1.94%	142	92.21%
Distance to Groceries	14	9.15%	12	7.84%	4	2.61%	5	3.26%	118	77.12%
Distance to Medical Services	0	0%	1	.64%	0	0%	2	1.30%	150	98.04%
Distance to Attend Church	41	32.28%	36	28.35%	11	8.66%	21	16.54%	18	14.17%
Distance to Repair Car	19	12.58%	22	14.57%	9	5.96%	9	5.96%	92	60.93%
Distance to Bank	45	29.41%	56	36.60%	15	9.80%	23	15.03%	14	9.15%

Other questions were designed to measure whether community respondents felt at home within the community and whether they were involved in the community (see Table 5.1.14). The

majority of the respondents felt very at home in the community (87.10%). Over 54% of respondents indicated that they were somewhat involved in the community, and 27.14% reported they were very involved.

The survey also examined community problems as perceived by the respondents. The response categories were: 1 = not serious, 2 = somewhat serious, and 3 = very serious (Table 5.1.15). The major issues in Cedar Key included: increasing land value, increasing property taxes, and access to health care. The problems of increasing property taxes as well as the land values were identified in the key informant interviews as phenomenon connected to the growth of tourism and the influx of retirees.

Table 5.1.14. Responses Toward Feeling At Home and Being Involved in Cedar Key

	Not at All	%	Somewhat	%	Very	%	M	SD
Feel at Home	20	12.90%	0	0%	135	87.10%	2.87	0.34
Involved in Community	28	18.06%	84	54.19%	43	27.74%	2.1	0.67

Table 5.1.15. Community Problems in Cedar Key.

	Not	%	Somewhat	%	Serious	%	M	SD
Lack of Economic Growth	78	51.32%	57	37.50%	17	11.2%	1.61	.68
Increasing Residential Development	60	39.22%	62	40.52%	31	20.3%	1.81	.75
Loss of Commercial Dockage	63	40.65%	38	26.95%	40	28.4%	1.84	.84
Increasing Land Value is a Problem	29	18.95%	39	25.49%	85	55.6%	2.37	.78
Increasing Property Taxes	10	6.49%	27	17.53%	117	76.00%	2.69	.59
Unemployment	63	44.37%	50	35.21%	29	20.4%	1.76	.77
Access to Health Care	29	18.83%	41	26.62%	84	54.5%	2.36	.78
Regulation of Fisheries	56	39.16%	43	30.07%	44	30.8%	1.92	.83
Pollution of the Marine Environment	86	56.21%	54	35.29%	13	8.5%	1.52	.65
Traffic Congestion	119	76.77%	23	14.84%	13	8.39%	1.32	.62
Increasing Newcomers	77	49.68%	58	37.42%	20	12.9%	1.63	.7
Growth of Tourism	102	66.23%	41	26.62%	11	7.14%	1.41	0.62
Access to Quality Education	120	79.47%	22	14.57%	9	5.96%	1.26	0.56

Key informant interviews identified distrust of outsiders and the ability of a few to dominate the social and political power inside of the community as barriers to social well-being of the local society. Table 5.1.16 examined the key factors that make individuals influential. The attributes identified included: personal characteristics (51.97% very important) community participation (52.29% very important), and whom you know (46.10% very important). Two of the attributes that ranged from somewhat important to very important were length of time and family background. These findings were supportive of information found during the key

informant interviews. Some respondents joked that an individual had to be from the third generation to be socially accepted within the community.

Table 5.1.16. Important Factors for a Person to be Influential in Cedar Key.

	Not at All	%	Somewhat	%	Very	%	M	SD
Length of Residence	36	23.84%	58	38.41%	57	37.75%	2.14	.77
Family Background	38	25.00%	54	35.53%	60	39.47%	2.14	.79
Occupation	65	42.76%	58	38.16%	29	19.08%	1.76	.75
Land Ownership	51	33.55%	61	40.13%	40	26.32%	1.93	.77
Wealth	79	51.97%	49	32.24%	24	15.79%	1.64	.74
Personal	17	11.18%	56	36.84%	79	51.97%	2.41	.68
Community Participation	17	11.11%	56	36.60%	80	52.29%	2.41	.68
Who You Know	38	24.68%	45	29.22%	71	46.10%	2.21	.82
Political Affiliation	79	54.86%	45	31.25%	20	13.89%	1.59	.72
Holding Official Office	57	38.26%	68	45.64%	24	16.11%	1.78	.71
Political Opinions	72	47.68%	53	35.10%	26	17.22%	1.7	.75
Age	105	69.54%	34	22.52%	12	7.94%	1.38	.63
Gender	104	68.87%	38	25.17%	9	5.96%	1.37	.6
Level of Education	76	49.67%	57	37.25%	20	13.07%	1.63	.7
Religious Affiliation	93	61.59%	42	27.81%	16	10.60%	1.49	.68

5.1.4.4 Net Ban

The key informant interviews identified the net ban as one of the milestones of the community's history. Here we examine perceptions of the net ban. As indicated in Table 5.1.17 some 88.4% of the residents had knowledge of the net ban. The majority of respondents also indicated that they either agreed (10.30%) or strongly agreed (78.6%) that the net ban had a large impact on the community of Cedar Key (see Table 5.1.18). This information suggests that the net ban was a turning point for the town of Cedar Key. The inability to use the nets was more than just a change in fishing but a change in the manner in which the community operated.

Table 5.1.17. Community Respondents' Knowledge of the 1994 Net Ban In Cedar Key

	No	%	Yes	%	M	SD
Knowledge of the Net Ban	18	11.6%	137	88.4%	.88	.32

Table 5.1.18. The Negative Impact of the 1994 Net Ban In Cedar Key.

	Strongly Disagree	%	Disagree	%	Agree	%	Strongly Agree	%	M	SD
Negative Impact of the 1994 Net Ban	7	4.80%	9	6.20%	15	10.30%	114	78.6%	3.63	.81

5.2 Marathon

5.2.1 History

Marathon is the largest community in the Middle Keys. It is about 120 miles south of downtown Miami and 115 miles north of Cuba. The island on which it lies is called “Vaca Key”- which translates to Cow Island. There are two theories on how the island got this name. The first theory suggests that the Spanish soldiers would leave their cows on the island to graze. The second theory suggests that the island was named after manatees, the mammals that have taken on the name “sea cow” (Powell and Powell, 1980).

Marathon was created as a base camp for thousands of railroad workers. The men came from the Caymans, Spain, Philadelphia, and New York. The camp was made up of tents, barracks, cottages, a hospital, a power plant, and repair shops for the trains. Local folklore suggests that the railroad workers named the settlement after their own endurance and struggles (Williams, 1988). The “marathon” was their unrelenting, day and night struggle to complete the railroad to Key West.

Marathon, unlike Key West, grew slowly. Marathon initially had fewer amenities than Key West, such as no electricity, few churches and no high school. Around the time of World War II, electricity and fresh water was available to all the Keys, but Marathon also gained an airport and a Coast Guard facility. Marathon realized many changes after World War II. Marathon gained its first newspaper, an attorney, dentist, a medical doctor, a garden club, a bank, refuge service, a fire department, and plans for a hospital. There were also a number of churches established as a permanent community took form. A series of natural disasters slowed development in the 1960’s as Hurricane Donna, Betsy, and Inez hit the Florida Keys. In total there were six hurricanes in six years.

Probably the most significant event in the recent history of Marathon was the highway modernization. Construction of a new Seven Mile Bridge began in 1979 and the highway opened on May 24, 1982. The Vaca Cut Bridge opened for two-way traffic in March 1983. The highway expansion opened the island to many tourists as they travel to Key West and the other Florida Keys.

Marathon’s economy has been based primarily on three industries: tourism, commercial fishing, and recreational fishing. Many festivities accompany the commercial and recreational fishing industry, including festivals and tournaments. The Marathon Seafood Festival is held on the last Saturday of October. This festival has been co-sponsored by the Greater Marathon Chamber of Commerce and the Marathon Chapter of the Organized Fishermen of Florida (OFF). It features marine hardware exhibits, live musical entertainment, games, and prize drawings. The money raised from the festival has gone towards paying for an airplane and pilot hired during the lobster season to keep a watch on trap molesters as well as paying for high school scholarships (Powell and Powell, 1980).

There have been two major events that have impacted fishing in Marathon. The first was the state constitutional amendment to ban gill nets over 500 sq ft area. This has forced many

fishers to target alternative species such as stone crab and lobster, and has put increased pressure on those species. Other fishers have left the industry. The second major development that has affected Marathon, was when Congress created the Florida Keys National Marine Sanctuary in 1990. The sanctuary boundary extends approximately 220 miles southwest from the southern tip of the Florida peninsula. The sanctuary has rules and regulations designed to protect the diverse marine life and lush coral reefs.

Also impacting the Marathon fishers is the Tortugas Ecological Reserve, which has two sections. In the Tortugas North, the new regulations prohibited all taking of marine life, restricted vessel discharges to cooling water and engine exhaust, prohibit anchoring and prohibit use of mooring buoys by vessels more than 100 feet in combined length. Regulations for Tortugas South also prohibited taking of marine life and restrict vessel discharges. In addition, to ease enforcement in this remote region, the regulations prohibited diving in Tortugas South, and required vessels to be in continuous transit through the area with fishing gear stowed. These regulations have been met with opposition from both commercial and recreational fisherman. These groups also feel that there will be further expansion of the reserve boundaries. Many worry that these regulations may have a long-term impact on their economic well-being as the Federal Government attempts to limit fishing in the Keys.

The city of Marathon has also recently been incorporated. This incorporation has given the local community the ability to raise and spend funds. The community has established housing regulations that favor seasonal tourism and has been in the process of creating a wastewater treatment plant, environmental restoration projects, city beautification projects, and development plans. The ability to legislate and tax has been seen as a major asset so that the community, that no longer has to look to the county for support of its programs. Marathon now has the ability to solicit and execute its own projects as well as plan for the future.

5.2.2 Census Demographics

Marathon has experienced rapid economic and population growth over the last 30 years. This economic expansion has not been without consequence with a change in the local economy, a rapid influx of people, and an increased cost of living. The demographic data show major population growth.

5.2.2.1 Age Distribution

The population of Marathon increased from 4,461 in 1970 to 10,255 in 2000. For Monroe County, population increased from 52,286 people to 79,589 from 1970 to 2000 (see Table 5.2.1). The data show a general pattern of aging in the population for both Marathon and Monroe County. The percentage of people between the ages of 0 and 24 dropped from 33.8% in 1970 to 24.9% in 2000 for Marathon. Those between the age of 25 and 64 increased from 52.7% in 1970 to 57.9% in 2000 in Marathon. The population of people 65 and over doubled in absolute numbers for both Monroe County and Marathon, but showed only a slight increase in the proportion of inhabitants.

Table 5.2.1. Census Demographic Information for Monroe County and Marathon.

Age Distribution	Location	1970	%	1980	%	1990	%	2000	%
Total Population	Monroe County	52,586		63,188		78,024		79,589	
Total Population	Marathon	4,461		7,568		8,857		10,255	
Persons Age 0-24	Monroe County	24,501	46.60%	20,183	31.90%	19,439	24.90%	15,196	23.38%
Persons Age 0-24	Marathon	1,482	33.80%	2,203	29.30%	2,154	24.30%	2,399	23.40%
Persons Age 25-64	Monroe County	23,585	44.90%	34,189	54.10%	46,286	59.30%	49,337	62.00%
Persons Age 25-64	Marathon	2,308	52.70%	4,161	55.40%	5,132	57.90%	6,214	60.60%
Persons Age 65+	Monroe County	4,500	8.56%	8,816	14.00%	12,299	15.80%	11,648	14.60%
Persons Age 65+	Marathon	589	13.50%	1,149	15.30%	1,571	17.70%	1,642	16.00%

5.2.2.2 Housing Units Information

There has been an increase in the number of housing units that have been built from 1970 to 2000 in Monroe County (36,295 to 51,617) and for Marathon (4,397 to 6,791) (see Table 5.2.2). There has been a decrease in the absolute number of units that have been developed from 1980 to 1990 (2000 housing data has not yet been released). The key informant interviews revealed that the Keys have been mostly developed and the limited land has slowed new construction. Limited land has also driven up property prices.

Table 5.2.2. Housing Units for Monroe County and Marathon.

	Location	1980	%	1990	%	2000
Total Household Units	Monroe County	36,295		46,215		51,617
Total Household Units	Marathon	4,397		5,208		6,791
Units Built 0-5 Year	Monroe County	7,749	21.35%	7,551	16.34%	
Units Built 0-5 Year	Marathon	975	22.17%	571	10.96%	
Units Built 6-10 Year	Monroe County	8,489	23.39%	6,439	13.93%	
Units Built 6-10 Year	Marathon	1,227	27.91%	1,037	19.91%	

5.2.2.3 Racial Distribution

The proportion of whites in both Monroe County and Marathon has remained relatively steady from 1970 and 2000, with the proportion ranging from 90% and 92% of the population (see Table 5.2.3). There has been a slight decrease in the proportion of African Americans in both Monroe County and Marathon between 1970 and 2000. The most dramatic population increase has come from the percentage of the Latino population. For Marathon, in 1970 only 1% of the population was Latino, in 2000 the figure was 20%. The increase is part of a larger demographic change in south Florida in which the Latino population had grown rapidly.

5.2.2.4 Educational Attainment

There has been an increase in the overall education level from 1970 to 2000 in Monroe County and Marathon. The number of people with high school diplomas remained steady around 30% for the time period (see Table 5.2.3). However, those with 13-15 years of education increased in Monroe County (from 8.92% to 24.40%) and Marathon (from 15.93% to 22.20%). Those with college degrees increased from 7.54% to 21.40% in Monroe County and from 7.76% to 16.90% in Marathon for the time period.

5.2.2.5 Industry

Overall, agriculture, fishing, and mining employment has been decreasing in Monroe County and Marathon from 1970 and 1990 (see Table 5.2.4). In Marathon, agriculture, fishing, and mining employment dropped from 11.8% in 1970 to 8.79% in 1990. In the same time period services have remained stable as a proportion of total employment from 1970 to 2000 for Marathon (32.6% to 30.90% respectively). Other industries remained relatively stable over the time period.

5.2.2.6 Average Salary

In 1970, the average household salary was \$6,993 for Monroe County and \$6,745 in Marathon. By 1990 the figure for Monroe County had increased to \$34,923 and \$26,806 for Marathon. There is a significant gap between the average household salary in the county and in Marathon.

Table 5.2.3. Racial Distribution and Educational Attainment for Monroe County and Marathon.

Racial Distribution	Location	1970	%	1980	%	1990	%	2000	%
White Persons	Monroe County	47,950	91.18%	57,631	91.21%	71,440	91.60%	73,333	92.13%
White Persons	Marathon	4,110	92.13%	7,076	93.50%	8,001	90.30%	9,432	91.97%
African American Persons	Monroe County	4,221	8.02%	3,838	6.07%	4,311	5.53%	4,139	5.20%
African American Persons	Marathon	351	7.86%	274	3.62%	586	6.62%	529	5.15%
Latino Persons	Monroe County	3,949	7.51%	7,194	11.39%	9,307	11.90%	12,553	15.77%
Latino Persons	Marathon	49	1.09%	302	3.99%	1,075	12.10%	2,095	20.42%
Educational Attainment	Location	1970	%	1980	%	1990	%		
Age of 25+ w/ 0-8 Years of Education	Monroe County	6,596	19.38%	5,539	12.25%	4,478	8.07%		
Age of 25+ w/ 0-8 Years of Education	Marathon	586	18.49%	668	11.99%	635	9.92%		
Age of 25+ w/ 9-11 Years of Education	Monroe County	5,762	16.93%	6,372	14.09%	7,404	13.30%		
Age of 25+ w/ 9-11 Years of Education	Marathon	629	19.84%	859	15.42%	1,241	19.40%		
Age of 25+ w/ HS diploma	Monroe County	10,120	29.73%	15,689	34.69%	17,063	30.70%		
Age of 25+ w/ HS diploma	Marathon	931	29.37%	2,095	37.62%	1,908	29.80%		
Age of 25+ w/ 13-15 Years of Education	Monroe County	3,038	8.92%	8,550	18.90%	13,554	24.40%		
Age of 25+ w/ 13-15 Years of Education	Marathon	505	15.93%	918	16.48%	1,423	22.20%		
Age of 25+ w/ College Degree	Monroe County	2,569	7.54%	6,855	15.16%	11,901	21.40%		
Age of 25+ w/ College Degree	Marathon	246	7.76%	770	13.83%	1,080	16.90%		

Table 5.2.4. Industries in Monroe County and Marathon.

Industry	Location	1970	%	1980	%	1990	%
Agriculture, Fishing, and Mining	Monroe County	920	6.8	1932	8.07%	1,860	4.76%
Agriculture, Fishing, and Mining	Marathon	217	11.8	319	9.89%	379	8.79%
Construction	Monroe County	1,231	9.1	2874	12.02%	3,307	8.47%
Construction	Marathon	242	13.1	477	14.80%	300	6.96%
Business Services	Monroe County	383	2.83	1099	4.59%	1,760	4.51%
Business Services	Marathon	85	4.62	96	2.97%	157	3.64%
Communication/ Utilities	Monroe County	665	4.92	1098	4.59%	1,234	3.16%
Communication/ Utilities	Marathon	24	1.3	152	4.71%	141	3.27%
Manufacturing	Monroe County	580	4.29	1356	5.67%	1,744	4.47%
Manufacturing	Marathon	69	3.75	174	5.39%	184	4.27%
Durable Manufacturing	Monroe County	260	1.92	657	2.74%	1,030	2.64%
Durable Manufacturing	Marathon	41	2.23	90	2.79%	121	2.81%
F.I.R.E.	Monroe County	595	4.4	1761	7.36%	2,504	6.41%
F.I.R.E.	Marathon	49	2.66	146	4.53%	274	6.35%
Services	Monroe County	4,408	32.6	5353	22.38%	12,827	32.80%
Services	Marathon	601	32.6	705	21.87%	1,332	30.90%
Wholesale/ Retail Transportation	Monroe County	4,003	29.6	6,46	26.95%	10,724	27.50%
Wholesale/ Retail Transportation	Marathon	453	24.6	920	28.54%	1,278	29.60%
Transportation	Monroe County	478	3.53	1,340	5.60%	2,067	5.29%
Transportation	Marathon	60	3.26	144	4.46%	147	3.41%

5.2.3 General and Fishing Employment for 1994 and 1996

Here, the percentage of employment provided by fishing was compared to other occupational sectors as an indicator of economic fishing dependency. The distribution of the fishing occupations is later presented to understand which forms of the fishing economy were most prevalent.

The service industry played a dominant role in the local economy in 1994 providing 37.2% of the local employment (see Table 5.2.5). The retail industry was the second largest employer providing 34.4% of the local employment. Fishing played a lesser role in the local economy providing 4.34% of the employment. The Marathon economic data was aggregated from the Zipcode Business Patterns 1994, US Department of Commerce.

The employment figures for 1996 showed slight increase in the service industry to 39.30% of the total community employment (see Figure 5.2.5). There was a decrease in the retail industry increase to 29.3% while finance and construction jumped to 7.8% of the total employment. There was also a slight decrease in fishing to 3.9%.

Table 5.2.5. Employment by Sector in Marathon in 1994 and 1996.

Employment in 1994	Number of Employees	%
Retail	1665	34.4
Manufacturing	170	3.51
Agriculture	28	0.58
Construction	303	6.26
Finance	327	6.75
Transportation	208	4.3
Mining	0	0
Wholesale Trade	131	2.71
Fishing	210	4.34
Service	1800	37.2
Employment in 1996	Number of Employees	%
Retail	1354	29.3
Manufacturing	180	3.9
Agriculture	48	1.04
Construction	360	7.8
Finance	360	7.8
Transportation	215	4.66
Mining	0	0
Wholesale Trade	108	2.34
Fishing	180	3.9
Service	1813	39.3

5.2.3.1 Fishing Employment by Sector 1994-1996

Table 5.2.6 provided the percentage of employment provided by the different occupations for fishing employment in Marathon. The majority of the employment in the fishing sector for 1994 came from Marinas 52.86% followed by fish and seafood (34.76%) and fishing, hunting, and trapping (12.38%). In 1996 there was a slight decline in employment in the Marinas (42.78%) and fish and seafood (32.78%). Fishing, hunting, and trapping increased to 24.44%.

The next section presents results from key informant interviews with community leaders (mayor, council members, etc.), businesses (tourism, fishing, industry), as well as commercial and recreational fishermen. Topics included in the interviews were commercial and recreational fishing employment, economic and social fishing dependency (both commercial and recreational), and community indicators (community action, goods and services, etc.), as well as milestones in the community's history. These interviews were conducted to validate the data from the secondary sources and examine the perspectives of the key informants on past, present, and future economic and social trends.

Table 5.2.6. Fishing Employment by Sector in Marathon in 1994 and 1996.

Employment in 1994	Number of Employees	%
Fish and Seafoods	73	34.76
Marinas	111	52.86
Fresh or Frozen Prepared Fish	0	0
Canned and Cured Fish and Seafoods	0	0
Fishing, Hunting, and Trapping	26	12.38
Employment in 1996	Number of Employees	%
Fish and Seafoods	59	32.78
Marinas	77	42.78
Fresh or Frozen Prepared Fish	0	0
Canned and Cured Fish and Seafoods	0	0
Fishing, Hunting, and Trapping	44	24.44

5.2.4 Key Informant Interviews

The respondents of the key informant interviews in Marathon described a fishing community as being “dependent on fishing; people coming to the area to fish, eat fish, learn about fishing.” Fishing dependent communities were thought to have major economic and cultural ties to fishing. Others described the visual aspects of fishing and cultural ties in terms of “lots of boats, where there are fishing families and the heritage is passed from father and son.” Others emphasized a fishing community as “a relatively small town, a place that has a long history of fishing, fishing in local waters as opposed to long-distances away, clannish with a focus on particular species (e.g. shrimp or lobster), and independent fishermen.”

The majority of the respondents felt that Marathon is a fishing community. One respondent stated: “Marathon is still a fishing community with a focus on lobster and stone crab; a significant number of people still make a living from fishing; reef fishing is mostly artisan; mostly people who come here in the winter and have managed to qualify for permits.” Another resident responded: “undoubtedly; there is a focus on fishing, people come here from all over the world to go fishing, and there are major commercial fisheries for lobster, stone crab, off shore fishing.” The majority of the respondents emphasized the importance of both the commercial and recreational industries.

The majority of the respondents felt that tourism and then fishing were the two most important parts of the local economy, in both number of jobs and revenue. The respondents emphasized that they are interconnected. One respondent stated: “I wouldn’t say dependent on just fishing, but separating tourism and fishing is pointless; they are totally tied together, so as a single unit (fishing tourism).” Respondents emphasized the conversion from a commercial to recreational industry. This was evidenced by one respondent that stated: “I would say that we are dependent on that and it has been for 100 years; but it has shifted from commercial to recreational. We are dependent on our *marine resources*, not necessarily on the harvest of fish. We have clients who come stay with us for 6 weeks at a time and NEVER bring a fish home—they just love to catch fish, and then they release them. So we are dependent on the resources but no necessarily on fishing in the traditional sense.” The majority of respondents recognized the

commercial industry as playing an important role in the local economy. One respondent stated: “Some proportion of the community is dependent on fishing—maybe 20-30%.”

Some respondents emphasized the impacts of regulations citing the lobster trap reduction program. Another resident stated that in fin-fishing “the licensing has become so expensive that many people cannot afford to go into commercial fishing; I couldn’t afford it so now I have to buy my fish from someone else, where before I could catch the same fish I sell.” Another recent change was the marine sanctuary that has been established around the Keys. One respondent stated: “The Sanctuary program is a big, big, change; the no-take zones are now mostly around Key West, but they are going to spill over to Marathon; size limits would have been a better approach.”

The majority responded that for recreational fishermen the future looks good. “Recreational will get better as long as the US economy gets better, as long as people have disposable incomes—without them, people stay at home.” The residents felt that commercial fishing will continue to decline. One respondent stated: “lobster is most important but it is not a secure endeavor; it depends on cruise ship demand and Asian suppliers.” The respondents felt that there will be increased dependence on tourism, winter residences, and increased gentrification of the local population.

Marathon has witnessed vast changes in its economy and its population. Key informants expressed that there has been a demographic shift from a fishing dependent community (in which there was a dominance of a few families) to a tourist destination in which the “Margaritaville” effect has drawn in middle-aged people (attracted by a lifestyle in which there is sun and fishing). Many families have left the community because of the rising property prices and the cost of living. The island has essentially developed to the point that there is little land left.

The net-ban and the creation of the “no take” zones has limited commercial fishing. Many fishers have become dependent on lobster but regulations have made it difficult to maintain their livelihoods. Others expressed frustration over the lack of a comprehensive management of the entire marine resource. Instead the fishers feel that regulations have increased the probability of over-fishing as species are restricted one by one. The key informants felt that the displacement of fishers has opened the waterfront to more tourism and development, which may ultimately endanger the ecosystem. Many fishers have expressed doubt about the long-term viability of the commercial industry while recreational fishing continues to boom.

5.2.4.1 Telephone Survey Demographics

The survey sample in Marathon consisted of 197 residents, of which 105 (53%) were male and 92 (47%) were female. The marital status of the sample respondents was as follows: 61.42% of the respondents were married, 17.26% were single, 8.62% were divorced, and 12.69% were widowed (see Table 5.2.7). For educational attainment, 12.69% percent of respondents received a graduate or professional degree, 24.37% were college graduates, 25.38% had some college education, 4.06% had vocational and technical degrees, and 27.41% were high school graduates.

Table 5.2.7. Demographics for Marathon.

Gender	Frequency	Percent
Male	105	53.29%
Female	92	46.70%
Marital Status		
Single	34	17.26%
Married	121	61.42%
Divorced	17	8.62%
Widow	25	12.69%
Education		
8th grade or less	3	1.52%
Some high school	9	4.56%
High school graduate	54	27.41%
Technical/Vocational	8	4.06%
Some college	50	25.38%
College graduate	48	24.37%
Graduate school/ Professional	25	12.69%
Race		
African American	7	3.59%
White	178	91.28%
Asian	0	0%
Other	10	5.12%
Hispanic Origin		
No	176	91.19%
Yes	17	8.80%
Living Situation		
Own home	145	73.98%
Rent home	43	21.94%
Live with parents	4	2.01%
Other	4	2.04%
Age (M=47.65, SD=17.93)		
0-24	7	3.60%
25-64	138	71.50%
64+	48	24.90%
Years in the Community		
	<u>M</u>	<u>SD</u>
Years	15.6	14.1

Over 91% of the survey sample was white, 3.59% were African-American, and 8.80% were Latino (see Table 5.2.7). The majority of the respondents were between the ages of 25-64 (68.02%), the mean length of residency was 14.1 years, and the mean age was 47.65 years. Over 73% of the respondents owned their homes. The majority (51.27%) of respondents were working full time (see Table 5.2.8). Over half of the sample worked outside of the town (51.26%). A large portion of the population was retired (38.07%).

Table 5.2.8. Employment Demographics for Marathon.

Employment	Frequency	Percent
Full time	101	51.27%
Part time	21	10.66%
Not employed/ retired/ disabled	75	38.07%
Place of Work		
Outside	101	51.26%
Inside	21	10.65%
Retired/ Don't Work	75	38.07%
Occupation		
Not Employed	75	38.26%
Agriculture	0	0.00%
Clerical	11	5.61%
Fishing	8	4.08%
Manufacturing	4	2.04%
Professional	45	22.96%
Retail	16	8.16%
Services	30	15.31%
Other	7	3.57%

The top two occupations were professional (22.96%) and service (15.31%), see Table 5.2.9). Fishing employment was 4.08% for all respondents.

5.2.4.2 Dependency

This section of the survey examines the respondents' perceptions of commercial and recreational fishing dependency, the importance of fishing to local culture, tourist dependency, and the linkage between tourism and fishing. Respondents considered 31.90% of the population of Marathon was involved in commercial fishing (see Table 5.2.9). This figure was much higher than one would anticipate based on the census. The percentage of the population perceived to be involved in recreational fishing was 53.60%.

Respondents were asked to rank commercial fishing, recreational fishing, and tourism in the order of their importance for the local economy (see Table 5.2.10). Over 69% ranked tourism as most important followed by recreational fishing (16.76%), and finally commercial fishing (15.59%). This data validated the key informant interviews in which tourism was perceived as the most important sector of the economy followed by recreational fishing, and then commercial fishing.

Table 5.2.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Marathon According to Responses.

Community / % Of Residents in Recreational and Commercial Fishing Industries	Marathon
Percentage of Residents involved in Commercial Fishing Industry	31.90%
Percentage of Residents involved in Recreational Fishing Industry	53.6%

Table 5.2.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In Marathon.

	Least	%	Next	%	Most	%	M	SD
Rank of Commercial Fishing	108	58.06%	49	26.34%	29	15.59%	1.58	0.75
Rank of Recreational	58	31.35%	96	51.89%	31	16.76%	1.85	0.68
Rank of Tourism	18	9.67%	38	20.43%	130	69.89%	2.6	0.66

Table 5.2.11 examined the economic and social importance of fishing to the local community. This data confirmed the prior data when 94.33% of the respondents stated that the economy was tourist dependent. The importance of recreational fishing was revealed when 83.33% responded the economy was dependent on recreational fishing and 83.37% stated charter fishing made a contribution to the local economy. Only 49.98% stated that the economy was dependent on commercial fishing. These numbers confirmed the prior trends identified in the key informant interviews about tourism, recreational fishing, and commercial fishing.

Fishing was found to be important to the local culture (96.41%, see Table 5.2.11). Nearly three-fifths felt that commercial fishing was an important draw for tourists while 55.38% responded that commercial fishing was attractive to the local landscape. The results showed that fishing was seen as an important part of the local culture. The perception of the lack of aesthetic value of commercial fishing partially confirmed some of the sentiment of fishers that overall they are seen as an eyesore with 44.68% responding they were not attractive.

The data supported the information from the key informant interviews. The majority of the respondents stated that the community was dependent on both recreational fishing and tourism. That data showed that commercial fishing has been important to the local culture but that the future may rely on tourism.

Table 5.2.11. The Importance of Fishing to the Local Economy in Marathon

	No	%	Yes	%	M	SD
Economy is Commercially Fishing Dependent	97	50.5	95	49.48	0.495	0.501
Contribution of Charter Fishing to the Local Economy	30	16.3	154	83.7	0.837	0.37
Impact of Fishing Regulations on the Ability to make a Living	58	37.9	95	62.09	0.621	0.487
Importance of Fishing to the Local Culture	7	3.59	188	96.41	0.964	0.187
Economy is Tourist Dependent	11	5.67	183	94.33	0.943	0.232
Economy is Dependent on Recreationally Fishing	32	16.7	160	83.33	0.833	0.374
Commercial Fishing is an Important Draw for Tourist	77	40.3	114	59.69	0.597	0.492
Commercial Fishing is Attractive to the Local Landscape	83	44.6	103	55.38	0.554	0.498

5.2.4.3 Community

Wilkinson (1991) defined community as being composed of a locality, local society, and collective actions. Locality is indicated by the physical boundaries of the community. Local society is composed of groups and institutions by which people satisfy their, physical, emotional,

and social needs. Last, community action is the interaction between actors who purposively attempt to improve the community.

Table 5.2.12 presents the community indicators of locality, local society, and community action. The responses, coded 0 = no and 1 = yes, are represented as a percentage of yes responses. 91.33% of the respondents stated that there was a periodic community celebration while another 92.59% responded that there was a major event in the communities past (Table 5.2.13). These responses suggest the existence of the local society and demonstrated both collective as well as a shared history.

Over 86% of respondents indicated there was a group that encourages community growth and 89.67% reported there was a citizen's organization to improve the community. The majority (67.38%) stated there was a building for community meetings while 88.95% reported there had been a community wide project over the last five years. These results suggest that there are community-oriented collective actions taking place in Marathon.

Over 92.75% stated there was a tourist center and 85.33% responded there was a sign to mark the community border existence of a community monument. Slightly over half (52.31%) responded the existence of a central community focal point and a community band (58.43%). Only 9.75% stated there was a community owned cemetery (which is logical because of the ground water level in the community). These indicators showed that Cedar Key was a community as defined by local society and locality (Wilkinson, 1991).

Table 5.2.12. The Existence of Community Indicators in Marathon.

	No	%	Yes	%	M	SD
Existence of a Community Monument	146	85.38%	25	14.62%	0.14	0.35
Existence of a Tourist Center	14	7.25%	179	92.75%	0.92	0.26
Sign to Mark the Community Border	27	14.67%	157	85.33%	0.85	0.35
Central Community Focal Point	93	47.69%	102	52.31%	0.52	0.50
Periodic Community Celebration	17	8.67%	179	91.33%	0.91	0.28
Community Owned Cemetery	148	90.24%	16	9.75%	0.09	0.29
Community Band	74	41.57%	104	58.43%	0.58	0.49
Community Wide Project Over the Last Five Years	21	11.41%	163	88.59%	0.88	0.31
A Building for Community Meetings	61	32.62%	126	67.38%	0.67	0.47
Citizens Organization to Improve the Community	19	10.33%	165	89.67%	0.89	0.30
Group to Encourage Community Growth	24	13.33%	156	86.67%	0.86	0.34
Major Event in the Community's Past	14	7.40%	175	92.59%	0.92	0.26

Table 5.2.13 presents measures of the capacity of local residents to meet their daily needs within the community. The results indicate that the majority of respondents were able to bank, attend church, buy groceries, receive medical services, and receive auto repair services within a ten-mile radius. The only notable exception was the distance the distance traveled by respondents to buy clothes, where 37.1% traveled beyond 10 miles.

The survey also included a question to measure if community respondents felt at home within the community and if they were involved in the community (see Table 5.2.14). The majority of the respondents felt very at home in the community (87.10%). Over 45% of the respondents were somewhat involved in the community and 18.78% reported they were very involved.

Table 5.2.13. The Distance Traveled In Order To Satisfy Needs in Marathon.

Distance/ Miles to Travel	<1	%	1-3	%	4-6	%	7-10	%	10+	%
Distance to Buy Clothes	14	7.778	51	25.88	24	12.18	18	9.137	73	37.1
Distance to Groceries	34	17.26	89	45.17	38	19.29	19	9.645	15	7.61
Distance to Medical Services	22	11.28	11.28	46.15	39	20	15	7.69	29	14.9
Distance to Attend Church	34	20.86	79	48.46	21	12.88	11	6.74	18	11
Distance to Repair Car	31	16.85	67	36.41	40	21.74	10	5.435	36	19.6
Distance to Bank	51	26.84	87	45.78	27	14.21	10	5.263	15	7.89

Table 5.2.14. Responses toward Feeling at Home and Being Involved in Marathon.

	Not at All	%	Somewhat	%	Very	%	M	SD
Feel at Home	8	4.08	37	18.88	151	77.04	2.73	0.53
Involved in Community	70	35.53	90	45.69	37	18.78	1.83	0.72

Respondents to the Marathon telephone survey were asked to rate the seriousness of some local issues (Table 5.2.15). Half of the respondents rated the problem of pollution of the

marine environment as serious issue and another 30.00% rated marine pollution as somewhat serious problem. The problems of increasing property taxes as well as increasing land values were identified by key informants as connected to the growth of tourism and the influx of the retirees. The survey found increasing property taxes (44.21% serious, 30% somewhat serious) as well as the increasing land values (40.31% serious, 25.65% somewhat serious) as important local issues.

Table 5.2.15. Community Problems in Marathon.

	Not	%	Somewhat	%	Serious	%	M	SD
Lack of Economic Growth	91	48.15	66	34.92	32	16.93	1.69	0.75
Increasing Residential Development	79	41.15	57	29.69	56	29.17	1.88	0.83
Loss of Commercial Dockage	100	61.73	44	27.16	18	9.137	1.49	0.69
Increasing Land Value is a Problem	65	34.03	49	25.65	77	40.31	2.06	0.86
Increasing Property Taxes	49	25.79	57	30	84	44.21	2.18	0.82
Unemployment	129	70.49	39	21.31	15	8.197	1.38	0.63
Access to Health Care	99	52.94	40	21.39	48	25.67	1.73	0.85
Regulation of Fisheries	73	46.79	47	30.13	36	23.08	1.76	0.8
Pollution of the Marine Environment	37	19.27	59	30.73	96	50	2.31	0.78
Traffic Congestion	62	31.47	59	29.95	76	38.58	2.07	0.84
Increasing Newcomers	104	53.61	59	30.41	31	15.98	1.62	0.75
Growth of Tourism	99	50.51	59	30.1	38	19.39	1.69	0.78
Access to Quality Education	47	24.61	79	41.36	65	34.03	1.86	0.78

Some 29.17% responded that increases residential development was a serious problem while 29.69 % stated that it was somewhat serious (Table 5.2.15). Traffic congestion was viewed as a serious problem in 38.58% of the responses and somewhat serious in 29.58% of the cases. Growth of the tourism industry was viewed as a serious problem among 19.38% of respondents and a somewhat serious problem in 30.1% of the sample. Over 15% of the respondents rated the increasing newcomers as serious problem and 30.41% as somewhat serious problem. These indicators cases were put into perspective by the key informant interviews in which the respondents were actually concerned about over-development and the growth of the tourist industry

The final concerns came from the lack of public services in Marathon. Access to quality education (34.03% serious problem, 41.36% somewhat of a problem) and healthcare (25.67%-serious problem, 21.39-somewhat serious problem) were seen as issues. The key informant interviews suggested that the actual physical location of the Keys has had an influence on the diversity of public services offered (there is no room for an additional hospital or school). Furthermore education has been affected by the high turnover of people and teachers connected with the high cost of living.

Table 5.2.16 examined the key factors that made individuals influential in the local community. Responses were coded: 1 = not at all, 2 = somewhat important, and 3 = very important. The attributes identified as being influential were personal characteristics (53.68% very important) and community participation (53.68% very important), and whom you know (35.79% very important). Length of time had a moderate influence at 34.09% (very important). Family background, occupation, land ownership, level of education, wealth, political opinions and holding official office ranged between 20.73% and 26.42% for very important and 25.39% to 44.5% for somewhat important.

Table 5.2.16. Important Factors for a Person to be Influential in Marathon

	Not at All	%	Somewhat	%	Very	%	M	SD
Length of Residence	47	24.61	79	41.36	65	34.03	2.09	0.76
Family Background	93	48.19	49	25.39	51	26.42	1.78	0.84
Occupation	79	40.72	74	38.14	41	21.13	1.8	0.76
Land Ownership	72	37.31	71	36.79	50	25.91	1.89	0.79
Wealth	99	51.3	54	27.98	40	20.73	1.69	0.79
Personal Characteristics	25	13.16	63	33.16	102	53.68	2.41	0.71
Community Participation	12	6.25	73	38.02	107	55.73	2.49	0.61
Who You Know	43	22.63	79	41.58	68	35.79	2.13	0.75
Political Affiliation	100	54.05	60	32.43	25	13.51	1.59	0.72
Holding Official Office	70	36.65	82	42.93	39	20.42	1.84	0.74
Political Opinions	70	37.43	76	40.64	41	21.93	1.84	0.76
Age	111	58.42	57	30	22	11.58	1.53	0.7
Gender	147	77.78	32	16.93	10	5.291	1.28	0.55
Level of Education	60	31.41	85	44.5	46	24.08	1.93	0.74
Religious Affiliation	150	77.72	34	17.62	9	4.663	1.27	0.54

5.2.4.4 Net Ban

This section assessed the respondents' perceptions of the net ban. Table 5.2.17 examined the knowledge of the 1994 net ban and were coded: 0 = no and 1 = yes. Some 55.3% of the residents had knowledge of the net ban. These respondents also agreed (27.87%) or strongly agreed (22.95%) that the net ban had a strong impact on the community of Marathon (see Table 5.2.18). The majority of the respondents had reported that recreational fishing and tourism were more important than commercial fishing.

Table 5.2.17. Community Respondents' Knowledge of the 1994 Net Ban in Marathon

	No	%	Yes	%	M	SD
Knowledge of the Net Ban	88	44.67	109	55.33	0.55	0.49

Table 5.2.18. The Negative Impact of the 1994 Net Ban in Marathon

	Strongly Disagree	%	Disagree	%	Agree	%	Strongly Agree	%	M	SD
Impact of the 1994 Net Ban	23	18.85	37	30.33	34	27.87	28	22.95	2.55	1.05

5.3 Panacea

5.3.1 History

Panacea is located in Wakulla County, Florida. The first European traveler to come to the region that is now Wakulla County was Ponce de Leon. In 1521, Ponce de Leon explored the Florida Gulf coast, landing near the site of the present fishing village, St. Marks. Ponce de Leon endeavored to establish a local settlement but was driven back by natives.

Another famous traveler to reach the gulf coast shores of Florida, and the Wakulla County area, was Hernando de Soto. Hernando de Soto, (whom discovered the Mississippi) passed his winters in the Wakulla County area (in 1539-40) and recorded the abundance of natural resources of the area. Over the next 100 years, Spanish traders, missionaries and soldiers came and went through the county. In the 1630s the Spanish built Fort San Marcos at the conjunction of the Wakulla and St. Marks rivers.

Wakulla County was formed on March 11, 1843. It is one of the oldest counties of Florida. The Ochlocknee River forms the western boundary of Wakulla County. Leon County is to the north and Jefferson County is to the west. In the 1800's New Port and St. Marks were the most important towns in Wakulla County. St. Mark's was to become one of the greatest shipping ports of the South. The shipping season usually began in September and ended in May the following year. In 1836 a railroad was built to connect St. Marks to Tallahassee. The railroad served to transfer cotton that was shipped for processing to the North. Trade involved about 60 percent of the population of Wakulla County and most of the shipping vessels went to New York.

Port Leon (later New Port), located three miles south of St. Marks on Apalachee Bay, was founded in 1838 and incorporated in 1841. Port Leon later became the county seat and the inhabitants later moved and established the town of New Port. The railroad running from Savannah to Thomasville literally bypassed the county and took away the cotton industry from areas of St. Marks. By the late 1800's, the population of Wakulla County slowly began to decline. Port Leon was completely destroyed by a hurricane and tidal wave in September 1843 and was not rebuilt.

The first courthouse of the county was built in New Port and a road was built (in 1855) connecting the town to Georgia. In the Civil War, Union forces invaded on the road but were repelled at the Battle of Natural Bridge. After the Civil War (in 1866) the courthouse was moved to Crawfordville where it has remained the county seat.

Surprisingly, the only incorporated municipalities within Wakulla County are Sopchoppy and St. Marks. The communities of Panacea, Buckhom, Shell Point, Medart, Wakulla, or even Crawfordville, which is the county seat, are not incorporated. Much of the county is rural, most roads are named for the families who originally lived on them, and most are unpaved. Panacea is located on the Apalachee Bay, twenty-six miles from Wakulla Station. Panacea refers to healthy living or universal remedy, after local folklore that suggests the springs in the area contain "healing" waters (Atkinson and Woodbery, 1936). Panacea was called Smith Springs until 1893

when Mr. And Mrs. Hall, a couple from Boston, bought it and the surrounding landscape. It was Mr. Hall's idea to change the name because of the medicative values in the spring water. At that time, springs were common treatments for rheumatism and kidney trouble (Atkinson and Woodbery, 1936).

Unlike nearby Apalachicola, which served as a major shipping port for cotton, timber, and seafood, Panacea appeared to have been focused on tourism and fishing. The Panacea Springs served as an attraction for individuals that would come and spend the summer. During Prohibition, the area became known for dancehalls and bars that were built out over the water, where the sale and consumption of alcohol was legal.

In 1941 Camp Gordon Johnston was established and about 10,000 soldiers and civilians permanently assigned to the area. The camp provided some of the toughest military training in the world. With Florida's sandy beaches, swamps, and jungle-like forests, combat in the Pacific Islands and landings in the European Theater were simulated. With the rotation of entire reinforced Army Divisions, the camp population would increase from 24,000 to 30,000. As a result, Camp Johnston became much larger than the surrounding towns. WWII ended on August 14, 1945. The camp was deactivated and closed in 1946. Later, the building facilities and land were sold as war surplus.

The construction of I-10 has been important for both Wakulla County and Panacea. In the mid-1950's \$70 million in new expressway revenue bonds were sold and provided money for new construction. Since it was immediately available, some of that funding became matching money for a federal interstate highway grant. With these funds 43 miles of expressway were built through Wakulla County

In Panacea, commercial fishing is the primary economic activity. While there is some recreational fishing, most residents are directly or indirectly involved in commercial fishing. Commercial fishing and recreational boating are also significant sources of income to Wakulla County. During the summer, the population reportedly swells to as many as 80,000.

Unlike Apalachicola, whose historic architecture and picturesque location have made it a booming tourist destination, Panacea is primarily visited by tourists who happen to be driving through the town or are using the marina to put over as they set off fishing. The tri-state area (Florida, Georgia and Alabama) supplies a great number of regular fishing visitors. As a result, Panacea appears to be a less culturally and economically diverse community than its neighbor, Apalachicola, and, in fact, seems both proud and protective of its small town atmosphere.

Nevertheless, the specter of rapid development is present in the discourse of many residents. While Panacea's lack of 'white, sandy beaches' was described as a reason the area might not be as desirable as other places for residential development, there remained a general awareness that the town lies in one of the few undeveloped coastal regions of Florida, and thus would likely experience changes seen in other places.

Fueling this awareness of imminent change was a general perception that commercial fishing was waning as an important economic activity. The constitutional amendment

prohibiting the use of entangling nets in all Florida waters, as well as other nets larger than 500 square feet of mesh area in near shore and inshore waters has been of the most contentious issues in the community's history. The fishers charge that there has been gross negligence on the part of government officials as they harass and attempt to enforce rules (of which they claim there are no specific standards). Conservationist and officials have felt that there has been a concerted effort to ignore and flagrantly disobey the amendment. There is no clear answer to these issues and both sides continue to disagree. It is commonly held among residents that the ban has had a substantial negative economic impact on the town. Additionally, the ban is thought to have endangered the psychological and emotional well-being of many of those involved in the process.

5.3.2 Census Demographics

The town of Panacea is isolated. A few families that made their living from the gulf founded the town. According to the key informant interviews the town has retained an atmosphere in which there is resistance to change and a distrust of outsiders. According to the key informant interviews tourism and the net ban have forced the community to face the outside world. Development threatens to change the current population of the town as well as drive up property prices. These trends have had wide implications across the state of Florida.

The population figures for Panacea were based on the Census county divisions (CCDs). The CCDs are; "geographic statistical subdivisions of counties established cooperatively by the Census Bureau and officials of state and local governments in states where minor civil divisions (MCDs) either do not exist or are unsatisfactory for census purposes" (US Census Bureau, 2000). The Census bureau clarified the purpose of the CCD's when they wrote:

The primary goal of delineating CCDs is to establish and maintain a set of subcounty units that have stable boundaries and recognizable names. A CCD usually represents one or more communities, trading centers or, in some instances, major land uses. It usually consists of a single geographic piece that is relatively compact in shape. The geographic "building blocks" of CCDs are census tracts, and many CCDs are groupings of several contiguous census tracts. (US Census Bureau, 2000)

The CCD was utilized because the community of Panacea was not recognized as a Census Designated Place because of its size and because it is an unincorporated place. This problem highlights one of the main issues that this project addresses. Many communities that are potentially fishing-dependent are not incorporated and reliable data are hard to establish. The Western Wakulla CCD is a rough approximation of Panacea. It essentially encompasses all of Panacea and the surrounding hinterlands and villages. Overall the county and the CCD have experienced a broad increase in the number of people. The overall population of Wakulla County was increased from 6,308 in 1970 to 22,863.

5.3.2.1 Age Distribution

There has been a general aging of the CCD's population with a decrease in the percentage of people ages 0-24 in both Wakulla County (from 47.05% in 1970 to 33.28% in 2000) and the CCD (from 40.23% in 1980 to 31.01 in 2000)(see Table 5.3.1). During the same time there has

been an 8% and 14% increase in the population from the ages of 25-64 in Wakulla County and in the CCD 1980 to 2000. The population age 65 and over doubled or nearly doubled in size in both Wakulla County and in the CCD but showed only a slight increase of 1% in the proportion of the total population (for the CCD) during the same time period. Overall there has been an aging of the county and CCD population.

5.3.2.2 Housing Units Information

There was an overall increase in the number of households in both Wakulla County (2,726 in 1970 to 6,587 in 1990) and the CCD (1,782 in 1980 to 2,342 in 1990; see Table 5.3.2). The proportion of housing in the CCD that is either 0-5 years old or 6-10 years old is lower than that of Wakulla County. Though in the most recent five-year period of data, the proportion of newer (0-5 year) houses in the CCD is approaching the proportion of newer homes in Wakulla County (21% and 23% respectively). This indicates that more residential development is starting to take place in the Panacea area.

Overall these figures showed that there was growth in the population, reflected in residential units. Nonetheless, these figures showed a growth in housing in relative proportion to the increases in the population. There was not however, an apparent boom period in construction in the CCD. The key informant interviews did reveal that there was growing concern over current housing and there is also concern about the future of the community because of development of the coast.

Table 5.3.1. Demographic Information for Wakulla County and the CCD.

Age Distribution	Location	1970	%	1980	%	1990	%	2000	%
Persons Age 0-24	Wakulla County	2,968	47.05%	4,618	42.42%	5,152	36.28	7,609	33.28%
Persons Age 0-24	CCD			1,409	40.23%	1,425	33.29	1,646	31.01%
Persons Age 25-64	Wakulla County	2,658	42.14%	5,066	46.54%	7,451	52.46	12,904	56.44%
Persons Age 25-64	CCD			1,630	46.54%	2,110	49.3	2,897	54.57%
Persons Age 65+	Wakulla County	682	10.81%	1,202	11.04%	1,599	11.26	2,350	10.28%
Persons Age 65+	CCD			463	13.22%	745	17.41	765	14.41%

Table 5.3.2. Housing Units for Wakulla County and the CCD.

	Location	1970	%	1980	%	1990	%
Total Household Units	Wakulla County	2,726		4,878		6,587	
Total Household Units	CCD			1,782		2,342	
Units Built 0-5 Year	Wakulla County			1,050	21.52%	1,521	23.09%
Units Built 0-5 Year	CCD			295	16.55%	493	21.05%
Units Built 6-10 Year	Wakulla County			1,209	24.78%	1,215	18.44%
Units Built 6-10 Year	CCD			336	18.85%	247	10.54%

5.3.2.4 Racial Distribution

There was an overall decrease in racial diversity in both Wakulla County and the CCD (Panacea area). The percentage of the white population increased in Wakulla County from 75.85% of the population (1970) to 87.17% (2000) and from 83.39% (1980) to 90.24% (2000) of the population in the CCD. There was a decrease in the percentage of African-Americans from 24.15% in 1970 to 11.84 % in 2000 for Wakulla County. Similarly in the CCD the proportion of African-Americans dropped from 16.21% in 1980 to 7.65% in 2000.

5.3.2.5 Educational Attainment

Educational attainment improved in Wakulla County and in the CCD over several Census periods(see Table 5.3.3). In Wakulla County for 1970, 23.95% of those age 25 or over were high school graduates. This figure increased to 40.83% of the population aged 25 or over in 1990. In the CCD for 1980, 36.16% of those age 25 or over were high school graduates. This figure increased to 38.08% of the population aged 25 or over in 1990. There were also increases of those received college degrees for both Wakulla County and the CCD (8.43% in Wakulla County and 7.96% for the CCD in 1980, and 10.57% in Wakulla County and 11.25% for the CCD in 1990).

5.3.2.6 Industry

The service industry employed 32.06% of the population in Wakulla County and 31.97% in the CCD in 1990 (see Table 5.3.4). Wholesale and retail transportation provided 18.81% of jobs for Wakulla County in 1990 and 21.12% of the employment for the CCD. Construction, manufacturing, and finance insurance and real estate provided between 4% and 14% of the employment in the year 2000. The number of people employed in agriculture, fishing, and mining increased in Wakulla County (from 165 to 347) and in the CCD (from 61 to 185; see Table 5.3.4). This was a reduction of the proportion of workers in Wakulla County, but in the CCD the agriculture, fishing, and mining figure increased from 5.65% in 1980 to 10.56% in 1990.

5.3.2.7 Average Salary

There was an increase the average wage from \$6,400 per year in 1970 to \$28,177 for Wakulla County in 1990 and \$9,903 per year in 1980 to \$20,469 in the CCD. The isolation of Panacea area may limit the economic opportunities in the community and may explain the wage gap with the county. The next section will provide an economic profile of the community of Panacea.

5.3.3 General and Fishing Employment for 1994 and 1996

This section relies upon data for the aggregated zipcodes representing the community of Panacea. Data were obtained from the Zipcode Business Patterns from the U.S. Department of Commerce. An emphasis was placed on the percentage of employment provided by fishing as compared to other occupational sectors as an indicator of economic fishing dependency. The distribution of the fishing occupations is also presented to help illustrate which sectors of the fishing economy are prevalent in Panacea. These figures are important because they highlight fishing before and after the constitutional ban on entanglement nets for commercial fishing and this data complements the data from the census.

Table 5.3.3. Racial Distribution and Educational Attainment for Wakulla County and the CCD.

Racial Distribution	Location	1970	%	1980	%	1990	%	2000	%
White Persons	Wakulla County	4,781	75.85%	9,051	82.57%	12,098	86.27%	19,929	87.17%
White Persons	CCD			2,953	83.39%	3,592	86.62%	4,790	90.24%
African American	Wakulla County	1,522	24.15%	1,786	16.29%	1,837	13.10%	2,706	11.84%
African American	CCD			574	16.21%	532	12.83%	406	7.649%
Latino	Wakulla County			124	1.13%	89	0.63%	443	1.93%
Latino Persons	CCD			33	0.93%	24	0.57%	100	1.88%
Educational Attainment	Location	1970	%	1980	%	1990	%	2000	%
Age of 25+ w/ 0-8 Years of Education	Wakulla County	1,628	48.75%	1,626	25.94%	1,026	11.85%		
Age of 25+ w/ 0-8 Years of Education	CCD			702	33.09%	455	16.40%		
Age of 25+ w/ 9-11 Years of Education	Wakulla County	660	19.76%	1,091	17.40%	1,542	17.81%		
Age of 25+ w/ 9-11 Years of Education	CCD			333	15.70%	520	18.75%		
Age of 25+ w/ HS diploma	Wakulla County	800	23.95%	2,438	38.89%	3,534	40.83%		
Age of 25+ w/ HS diploma	CCD			767	36.16%	1,056	38.08%		
Age of 25+ w/ 13-15 Years of Education	Wakulla County	191	5.71%	584	9.31%	1,638	18.92%		
Age of 25+ w/ 13-15 Years of Education	CCD			150	7.07%	430	15.50%		
Age of 25+ w/ College Degree	Wakulla County	61	1.82%	529	8.43%	915	10.57%		
Age of 25+ w/ College Degree	CCD			169	7.96%	312	11.25%		
Drop outs	Wakulla County	159	4.14%	95	1.43%	128	1.41%		
Drop outs	CCD								
Not in School	Wakulla County	338	8.80%	262	3.95%	255	2.82%		
Not in School	CCD								

Table 5.3.4. Industries in Wakulla County and the CCD.

Industry	Location	1970	%	1980	%	1990	%
Agriculture, Fishing, and Mining	Wakulla County	165	7.44%	196	5.51%	347	5.44%
Agriculture, Fishing, and Mining	CCD			61	5.65%	186	10.56%
Construction	Wakulla County	280	12.63%	433	12.18%	920	14.42%
Construction	CCD			85	7.87%	211	11.98%
Business Services	Wakulla County	7	0.31%	206	5.79%	325	5.09%
Business Services	CCD			32	2.96%	94	5.33%
Communication/ Utilities	Wakulla County	87	3.92%	267	7.50%	209	3.27%
Communication/ Utilities	CCD			104	9.63%	48	2.72%
Manufacturing	Wakulla County	329	14.84%	541	15.21%	508	7.96%
Manufacturing	CCD			52	4.81%	71	4.03%
Durable Manufacturing	Wakulla County	141	6.36%	141	3.96%	188	2.94%
Durable Manufacturing	CCD			13	1.20%	35	1.98%
F.I.R.E.	Wakulla County	69	3.11%	81	2.27%	356	5.58%
F.I.R.E.	CCD			4	0.37%	153	8.68%
Services	Wakulla County	466	21.02%	682	19.18%	2045	32.06%
Services	CCD			335	31.05%	563	31.97%
Wholesale/ Retail Transportation	Wakulla County	561	25.30%	848	23.85%	1200	18.81%
Wholesale/ Retail Transportation	CCD			330	30.58%	372	21.12%
Transportation	Wakulla County	112	5.05%	161	4.52%	281	4.40%
Transportation	CCD			63	5.83%	28	1.59%

The retail industry played a dominant role in the local economy in 1994 providing 42.70% of the local employment (see Table 5.3.5). The service industry was the second largest employer providing 22.6% of the local employment. Fishing played a substantial role providing 16.40% of the employment.

Table 5.3.5. Employment by Sector in Panacea in 1994 and 1996

Employment in 1994	Number of Employees	%
Retail	271	42.70%
Manufacturing	0	0.00%
Agriculture	3	0.47%
Construction	82	12.90%
Finance	15	2.37%
Transportation	6	0.95%
Mining	0	0.00%
Wholesale Trade	10	1.58%
Fishing	104	16.40%
Service	143	22.60%
Employment in 1996	Number of Employees	%
Retail	66	12.80%
Manufacturing	3	0.58%
Agriculture	3	0.58%
Construction	113	22.00%
Finance	6	1.17%
Transportation	6	1.17%
Mining	0	0.00%
Wholesale Trade	20	3.89%
Fishing	38	7.39%
Service	259	50.40%

The employment figures for 1996 showed a dramatic increase in the service industry to 50.40% of the total community employment (see Figure 5.3.5). There was a decrease in the retail industry increase to 12.80%. There was also a substantial jump in construction to 22.00% of the total employment. The data confirmed the information from the key informant about the decline of fishing in the local economy (see Table 5.3.5). There were 104 people employed in fishing in 1994 comprising 16.4% of employment. This decreased to 38 in 1996 and fell to just 7.39% of the total employment. The key informant interviews also revealed the difficulties in trying to retrain these individuals because of resistance to becoming employed (as compared to being self-employed), the low level of education, the limited number of economic opportunities, and the loss of identity because of the change in livelihoods.

5.3.3.1 Fishing Employment for 1994 and 1996

Table 5.3.6 provided the percentage of employment provided by the different occupations for fishing employment in Panacea. The majority of the employment in the fishing sector for 1994 came from fishing, hunting, and trapping (73.10%) and fresh or frozen prepared fish (18.30%). In 1996 most of the employment came from marinas (36.84%) and fresh or frozen prepared fish (36.84%). Fishing, hunting, and trapping decreased to 2.63%.

Table 5.3.6. Fishing Employment by Sector in Panacea in 1994 and 1996

Employment in 1994	Number of Employees	%
Fish and Seafoods	0	0.00%
Marinas	9	8.65%
Fresh or Frozen Prepared Fish	19	18.30%
Canned and Cured Fish and Seafoods	0	0.00%
Fishing, Hunting, and Trapping	76	73.10%
Employment in 1996	Number of Employees	%
Fish and Seafoods	6	15.79%
Marinas	14	36.84%
Fresh or Frozen Prepared Fish	14	36.84%
Canned and Cured Fish and Seafoods	3	7.89%
Fishing, Hunting, and Trapping	1	2.63%

This section illustrated the decreasing reliance on commercial fishing employment in the community and the increasing importance of retail and the service industries in Panacea. The next section presents results from key informant interviews, which included community leaders (mayor, council members, etc.), business people (tourism, fishing, industry), as well as commercial and recreational fishermen.

5.3.4 Key Informant Interviews

Topics included in the Panacea key informant interviews were: the level of commercial and recreational fishing employment, economic and social concepts of fishing dependency (both commercial and recreational), and assessment of community (community action, goods and services, etc.), as well as milestones in the community's history. These interviews were conducted to validate the data from the secondary sources and examine the perspectives of the key informants on past, present, and future economic and social trends.

Respondents described a fishing community as a place where 50% of population earns a living from fishing and/or fishing-related businesses. They also described a fishing community as being friendlier, having slower pace, everyone knowing everyone, a place where a working class person makes a living, and a place where the money being made from fishing stays in the community. Respondents also emphasized the close family ties that have lasted through some four to five generations that were all engaged in fishing. One respondent stated that it is a place of; "fishing culture—where people talk about fishing, think about fishing, go fishing, eat fish, and sell fish."

The majority of the respondents felt that Panacea was a fishing community. One respondent stated "There are two kinds of people in Panacea—those who fish, and those who eat fish. People talk about fish, eat fish—it's what they do down there. I'd say that 90% of the people living in Panacea are involved in commercial fishing." The Residents reported that the town is fishing dependent but restaurants and hotels; Winn-Dixie, secretarial work was growing in response to recreational fishing. One respondent stated; "20 years ago, fishing was the top

employer. Now people are hiring Mexicans to work, because they can't afford to pay local people." Some reported that there is a little work in tourism.

The key informants also doubted the ability of the town and fishing to provide employment for their children. When respondent stated; "I encouraged my kids NOT to become involved in commercial fishing. My son is a pharmacist. Young people are not becoming involved in the fishing. Parents are pushing them to get an education because they feel that the 'state' is trying to shut down the fishing industry." Very few people felt positive about the ability of the community to retain their young people. The respondents felt that this will change the identity of the community that in the past has passed its heritage from one generation from the next.

The major milestones were the impact of the net ban and fishing regulations. One respondent stated; "The net ban has disrupted a way of life." They described the "power of the pen" approach used by sport-fishermen to sway public opinion against commercial fishing. Other respondents complained about; "HACCP regulations that don't exist in other countries—these make it more expensive for us to process our product; our crab pickers use stainless steel tables, wear aprons and hairnets—they (the Chinese) do it in their backyards!'" Others proclaimed that the limit of permits for crabs as limiting the economic viability for residents of Panacea.

The key informants also spoke about the community's resistance to the net ban. There were meetings rallies and widespread public support to fight the net-ban. Respondents complained about the overall lack of "informed" officials that could interpret the net ban regulations. They felt that there were many people that had been fined because of the lack of clear standards. Others complained and spoke of abuse by officials that were overzealous in their enforcement.

Some of the informants were not in favor of the net ban but have noticed that there has been a change in the social hierarchy in the town because of the net ban. One informant stated; "The fishermen here were almost clan like; the net ban was the last in a string of regulations that have, essentially, broken up the clan structure." These informants were also wary of the negative consequences of the net ban when they stated; "there will be an influx of drugs. Idle hands are the devils workshop. These people worked with their hands. They were not formally educated and they are not qualified for a great number of other jobs. The community has been so fragmented by the net ban that it will be hard to bring the fishing industry back together again." This statement highlights some of the sentiments of other informants in which there was a shared concern for the well-being of fishers because they were not prepared for any other type of employment. This was attributed to lack of training, education, as well as the lack of a desire to become wage employees.

The majority of the respondents felt that there would be an increase in the land prices in Panacea in the future. This will be the result of the expansion of the tourist industry. Despite not having the "sandy white beaches", residents feel that the fishing waterfront will disappear. One man stated; "Fishing will be pushed out of U.S. hands, just like what has happened to farmers."

Panacea is a small community that in the past has depended on fishing for its survival. The location of Panacea on the coast away from any major corridors has limited the economic development of the town. The town had remained dependent on fishing which has sustained both the social and economic needs of the town. The data has also revealed the negative social and economic impacts of the net ban. A portion of the town has fought the change brought by the net-ban while another portion braces for the changes that are perceived as inevitable. These changes include the migration of young people out of the area and the eventual development of the coastline. Many feel that this development will ultimately raise property prices and possibly price the locals out of their community.

5.3.4.1 Telephone Survey Demographics

The following is a description of the Panacea telephone survey demographics. The survey consisted of 128 respondents, of which 59.37% were male and 40.62% were female. Over 64% of the respondents were married, 15.63% were single, 11.72% were divorced, and 7.81% were widowed (see Table 5.3.7). Educational attainment for the survey respondents were as follows: 27.41% were high school graduates, 4.06% had technical or vocational degrees, 25.38% had some college, 24.37% were college graduates, and 12.69% had attended graduate school.

The majority of the sample was white (91.28%) followed by African-Americans (3.59%) (see Table 5.3.7). The majority of the respondents owned their own home (73.98%) while another 21.94% were renting. For the sample age distribution, the majority were aged of 25-64 (80.47%) with the remainder distributed between 18-24 (15.62%), and 65 and over (3.90%). The mean years in the community was 17.64 with a standard deviation of 18.16 years.

Table 5.3.7. Demographics for Panacea.

Gender		
	Frequency	%
Male	76	59.37%
Female	52	40.62%
Marital Status		
Single	20	15.63%
Married	83	64.84%
Divorced	15	11.72%
Widow	10	7.81%
Education		
8th grade or less	3	2.36%
Some high school	10	7.87%
High school graduate	39	30.70%
Technical/Vocational	5	3.94%
Some college	30	23.6%
College graduate	31	24.4%
Graduate school/ Professional	9	7.09%
Race		
White	126	98.40%
African American	01	0.00%
Asian	1	0.78%
Other		0.78%
Hispanic Origin		
No	124	96.88%
Yes	4	3.12%
Living Situation		
Own home	110	86.6%
Rent home	11	8.7%
Live with parents	1	.8%
Other	5	3.9%
Age (M=50.01, SD=14.16)		
0-24	4	3.1%
25-64	106	83.5%
65+	17	13.40%
Years in the Community		
	<u>M</u>	<u>SD</u>
Years	17.64	18.16

Only 46.09% of the Panacea sample was working full time while 41.41% was not employed, retired or disabled (see Table 5.3.8). Over 35% of the survey population worked outside of the community. Of those employed 18.75% were involved in manufacturing, 10.94% in retail, 10.16% in services, and 5.46% as clerical employees. Only 5.46% were employed as fishers.

Table 5.3.8. Employment Demographics for Panacea.

Employment Status		
Full time	59	46.09%
Part time	16	12.50%
Not employed/ retired/ disabled	53	41.41%
Place of Work		
Outside	46	35.94%
Inside	29	22.66%
Retired/ Don't Work	53	41.41%
Occupation		
Not Employed	53	41.41%
Agriculture	2	1.56%
Clerical	7	5.46%
Fishing	7	5.46%
Manufacturing	24	18.75%
Professional	8	6.25%
Retail	14	10.94%
Services	13	10.16%
Other	53	41.41%

5.3.4.2 Dependency

This section of the survey examines issues of commercial and recreational fishing dependency, the importance of fishing to local culture, tourist dependency, and the linkage between tourism and fishing. Respondents felt that 47.61% of the population of Panacea was involved in commercial fishing while another 51.15% were involved in recreational fishing (see Table 5.3.9). These numbers are great overestimates. Interestingly, the percentage of the population perceived to be involved in recreational fishing was higher than commercial fishing.

The respondents were asked to rank commercial fishing, recreational fishing, and tourism in the order of their importance for the local economy (see Table 5.3.10). These responses were coded one for least important, two second most important, and three for most important. Some 57.94% responded that commercial fishing was most important followed by recreational fishing (26.98%), and finally tourism (15.59%). This data validated the key informant interviews in which commercial fishing was perceived as the most important sector of the economy followed by recreational fishing, and then tourism.

Table 5.3.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Panacea According to Respondents.

Question	Percent
Percentage of Residents involved in Commercial Fishing Industry	47.61
Percentage of Residents involved in Recreational Fishing Industry	51.15

Table 5.3.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Panacea.

	Least	%	Next	%	Most	%	M	SD
Rank of Commercial Fishing	25	19.84%	28	22.22%	73	57.94%	2.38	.79
Rank of Recreational	22	17.46%	70	55.56%	34	26.98%	2.1	.66
Rank of Tourism	79	62.70%	27	21.43%	20	15.87%	1.53	.75

The economic and social importance of fishing to the local community was examined in Table 5.3.11. This data confirmed the earlier perceptions when 74.19% stated that the economy was dependent on commercial fishing, while 64.35% felt there had been an impact of fishing regulations on the ability to make a living. The vast majority of the respondents (92.97%) felt that fishing was important for the local culture. Some 59.5% stated that commercial fishing was a draw for tourists, showing the linkage between the two sectors. Overall these figures confirmed the data from the key informant interviews and showed both the cultural and economic importance of commercial fishing.

Table 5.3.11. The Importance of Fishing to the Local Economy in Panacea

	No	%	Yes	%	M	SD
Economy is Commercially Fishing Dependent	32	25.80%	92	74.19%	0.74	0.44
Contribution of Charter Fishing to the Local Economy	41	35.66%	74	64.34%	0.64	0.48
Impact of Fishing Regulations on the Ability to make a Living	41	35.65%	74	64.35%	0.64	0.48
Importance of Fishing to the Local Culture	11	7.80%	115	92.92%	0.92	0.23
Economy is Tourist Dependent	60	48.38%	64	51.61%	0.52	0.5
Economy is Dependent on Recreationally Fishing	46	38.01%	75	61.98%	0.62	0.49
Commercial Fishing is an Important Draw for Tourist	48	40.50%	69	59.50%	0.59	0.5
Commercial Fishing is Attractive to the Local Landscape	49	40.49%	72	59.50%	0.6	0.49

Over half the population felt the economy was tourist dependent (58.12%) and dependent on recreational fishing (58.19%). Some 64% stated charter fishing made a contribution to the local economy. These numbers showed that recreational and charter fishing were not seen as important as commercial fishing. These figures should not however, underestimate the importance of these industries.

5.3.4.3 Community

Table 5.3.12 examined if there was community action. Some 66.09% responded there was a group to encourage community growth and 79.31% reported there was a citizen's organization to improve the community. Some 73.95% reported there was a community wide project over the last five years while 48.81% stated there was a building for community meetings. These results showed that there were opportunities for local action on a community-wide scale.

Just 20.97% stated there was a tourist center and 38.52% responded there was a sign to mark the community border, and only 9.09% said there was a community monument (see Table 5.3.12. Under half (32.28%) responded the existence of a central community focal point and a community band (14.53%). Over half (58.16%) stated there was a community owned

cemetery. These figures reflect the diffuse nature and the lack of local government in the Panacea area.

Table 5.3.12. The Existence of Community Indicators in Panacea.

	No	%	Yes	%	M	SD
Existence of a Community Monument	110	90.91%	11	9.09%	0.09	0.289
Existence of a Tourist Center	98	79.03%	26	20.97%	0.21	0.409
Sign to Mark the Community Border	75	61.48%	47	38.52%	0.39	0.489
Central Community Focal Point	79	61.72%	49	38.28%	0.38	0.488
Periodic Community Celebration	7	5.46%	121	94.53%	0.95	0.228
Community Owned Cemetery	41	41.84%	57	58.16%	0.58	0.496
Community Band	100	85.47%	17	14.53%	0.15	0.354
Community Wide Project Over the Last Five Years	31	26.05%	88	73.95%	0.74	0.441
A Building for Community Meetings	65	51.59%	61	48.41%	0.48	0.502
Citizens Organization to Improve the Community	24	20.69%	92	79.31%	0.79	0.407
Group to Encourage Community Growth	39	33.91%	76	66.09%	0.66	0.475
Major Event in the Community's Past	26	22.61%	89	77.39%	0.77	0.42

Table 5.3.13 examined the local society by investigating the capacity of local residents to meet their daily needs inside the community. The majority of respondents bought their clothes, bought groceries, received medical services, had their car repaired, outside a ten-mile radius. Another 44.88% went beyond a ten-mile radius to conduct their banking. The only substantial activity that was conducted within the ten-mile radius was going to church with only 18.75% traveling beyond the ten-mile status. The indicators showed a pattern by which the area was very connected to extra-community economy.

Table 5.3.13. The Distance Traveled In Order To Satisfy Needs in Panacea.

Distance/ Miles to Travel	<1	%	1-3	%	4-6	%	7-10	%	10+	%
Distance to Buy Clothes	0	0.00%	2	1.56%	1	0.80%	6	4.80%	116	92.80%
Distance to Groceries	10	7.81%	18	14.06%	12	9.37%	17	13.28%	71	55.47%
Distance to Medical Services	7	5.51%	8	6.29%	6	4.72%	9	7.08%	97	76.38%
Distance to Attend Church	16	14.3%	41	36.61%	22	19.64%	12	10.71%	21	18.75%
Distance to Repair Car	11	9.09%	16	13.22%	16	13.22%	13	10.74%	65	53.72%

Table 5.3.14 examined if community respondents felt at home within the community and if they were involved in the community. The majority of the respondents (82.81%) felt very at home in the community. Over 39% of the respondents felt somewhat involved in the community and 23.62% reported they were very involved. These numbers were encouraging and showed that the majority of the respondent were at least comfortable in the community and involved.

The survey also examined community problems and issues as perceived by the respondents (see Table 5.3.15). The major problems identified in the survey were regulation of fisheries (44.55% indicated a serious problem, 30.00% somewhat a problem), unemployment (33.33% indicated a serious problem, 34.40% somewhat a problem), lack of economic growth

(32.28% indicated a serious problem, 32.28% somewhat a problem), increasing property taxes (27.87% indicated a serious problem, 24.59% somewhat a problem), and access to health care (28.00% indicated a serious problem, 34.40% somewhat a problem). These findings confirmed a number of trends also found with the key informant interviews. These findings confirmed that impact of regulations on the community, the lack of economic prosperity (unemployment and economic growth), the lack of basic services (health care), and finally rising property taxes were all considered important problems.

Table 5.3.14. Responses Toward Feeling At Home and Being Involved in Panacea.

	Not at All	%	Somewhat	%	Very	%	M	SD
Feel at Home	4	3.12%	18	14.06%	106	82.81%	2.79	0.47
Involved in Community	47	37.01%	50	39.37%	30	23.62%	1.86	0.77

Table 5.3.15. Community Problems in Panacea.

	Not	%	Somewhat	%	Serious	%	M	SD
Lack of Economic Growth	45	35.43%	41	32.28%	41	32.28%	1.96	0.82
Increasing Residential Development	78	61.9%	35	27.78%	13	10.32%	1.48	0.67
Loss of Commercial Dockage	65	56.52%	30	26.09%	20	17.39%	1.60	0.76
Increasing Land Value is a Problem	67	54.03%	40	32.26%	17	13.71%	1.59	0.72
Increasing Property Taxes	58	47.54%	30	24.59%	34	27.87%	1.80	0.84
Unemployment	48	39.02%	34	27.64%	41	33.33%	1.94	0.85
Access to Health Care	47	37.60%	43	34.40%	35	28.00%	1.90	0.80
Regulation of Fisheries	28	25.45%	33	30.00%	49	44.55%	2.19	0.81
Pollution of the Marine Environment	60	49.18%	44	36.07%	18	14.75%	1.65	0.725
Traffic Congestion	101	78.91%	21	16.41%	6	4.68%	1.25	0.53
Increasing Newcomers	82	65.60%	36	28.80%	7	5.60%	1.4	0.59
Growth of Tourism	96	77.42%	22	17.74%	6	4.83%	1.27	0.54
Access to Quality Education	99	79.20%	14	11.20%	12	9.60%	1.30	0.63

Table 5.3.16 examined the key factors that made an individual influential. The attributes identified as being influential were personal characteristics (46.40% very important) community participation (47.20% very important), and whom you know (52.00% very important). Two of the attributes that ranged from somewhat important to very important were length of time (37.60% very important, 36.80% somewhat important) and family background (36.72% very important, 28.91% somewhat important). These findings validated the key informant interviews that showed that there were prominent families as well as a reluctance to trust outsiders.

Political perspectives of individuals were seen as somewhat influential with political affiliation (22.95% very important, 19.67% somewhat important), holding official post (24.80% very important, 29.60% somewhat important), and political opinions (24.59% very important, 33.61% somewhat important; see Table 5.3.16). Level of education was also seen as having had some influence when responded 22.05% very important and 33.86% somewhat important.

Panacea is a small community that has depended on fishing for its survival. Furthermore the community's isolated location has limited the economic development of the town. The major challenge that faces the town is providing employment for the community's residents. Many important services were being sought outside of the community such as food, clothes, car repair, and health services. Many of the youth have moved away as the town continues to fight the net-ban in an effort to preserve its heritage.

Table 5.3.16. Important Factors for a Person to be Influential in Panacea.

	Not at All	%	Somewhat	%	Very	%	M	SD
Length of Residence	32	25.60%	46	36.80%	47	37.60%	2.12	0.79
Family Background	44	34.38%	37	28.91%	47	36.72%	2.02	0.85
Occupation	64	50.79%	38	30.16%	24	19.05%	1.68	0.78
Land Ownership	45	36.29%	42	33.87%	37	29.84%	1.93	0.81
Wealth	71	56.80%	37	29.60%	17	13.60%	1.56	0.72
Personal	26	20.80%	41	32.80%	58	46.40%	2.25	0.78
Community Participation	20	16.00%	46	36.80%	59	47.20%	2.31	0.73
Who You Know	20	16.00%	40	32.00%	65	52.00%	2.36	0.74
Political Affiliation	70	57.38%	24	19.67%	28	22.95%	1.65	0.83
Holding Official Office	57	45.60%	37	29.60%	31	24.80%	1.79	0.82
Political Opinions	51	41.80%	41	33.61%	30	24.59%	1.82	0.8
Age	82	65.08%	35	27.78%	9	7.14%	1.42	0.62
Gender	93	75.00%	23	18.55%	8	6.45%	1.31	0.59
Level of Education	56	44.09%	43	33.86%	28	22.05%	1.78	0.79
Religious Affiliation	90	70.87%	23	18.11%	14	11.02%	1.40	0.68

5.3.4.4 Net Ban

Table 5.3.17 examined the local knowledge of the 1994 net ban. Over 89% of the residents had knowledge of the net ban. Panacea respondents stated that they either agreed (18.64%) or strongly agreed (60.20%) that the net ban had a significant negative impact on the community of Panacea (Table 5.3.18). The net ban had disturbed the economic and social fabric that was based on fishing. The town has fought to preserve its fishing heritage, but many key informants felt that with the young people moving away and the increasing property taxes the community will change to more of a tourist-based economy with strong links to recreational fishing.

Table 5.3.17. Community Respondents' Knowledge of the 1994 Net Ban in Panacea.

	No	%	Yes	%	M	SD
Knowledge of the Net Ban	14	10.90%	114	89.10%	0.89	0.31

Table 5.3.18. The Negative Impact of the 1994 Net Ban in Panacea.

	Strongly Disagree	%	Disagree	%	Agree	%	Strongly Agree	%	M	SD
Impact of the 1994 Net Ban	8	6.78%	17	14.41%	22	18.64%	71	60.20%	3.32	0.96

5.4 Apalachicola

5.4.1 History

Apalachicola, and the nearby communities of Eastpoint and St. George's Island, are located at the mouth of Apalachicola River and East Bay, both of which feed into Apalachicola Bay. The Apalachicola River basin is part of the Apalachicola-Chattahoochee-Flint River system, which drains an area of approximately 19,600 miles in Alabama, Georgia, and Florida. The bay is one of the most productive estuarine systems in the nation and is located roughly 90 miles southwest of Tallahassee. The city of Apalachicola is located at the tip of the western side of the mouth of Apalachicola River, Eastpoint is situated on the eastern side of the mouth of East Bay, and St. George, which is primarily a vacation resort, is located on St. George Island, a barrier island off the coast, due south of Eastpoint.

Apalachicola historically has been a working fishing village. Apalachicola, means "people on the other side" as the name was given by the Apalachee Indians. Apalachicola was founded in 1822, when President Monroe appointed a port collector to the village. Before that time, indigenous groups had occupied the area surrounding the mouth of the Apalachicola River for some 10,000 years. While a number of Spanish missionaries were established further inland, settlement by colonists in present-day Apalachicola did not occur until the early 19th century.

The design for the Apalachicola's town plan was based on the plan executed in Philadelphia. The town was laid out in a rectangular fashion with an open square located near each of its four corners and a larger square at the town's center. There were lots along the river with warehouse space as well as commercial and residential business space to handle the planned shipping.

Apalachicola was a major seaport from 1827 to 1861. The town quickly became Florida's largest cotton port before the Civil War. The other two leading ports were New Orleans and Mobile. The majority of the cotton that was handled by the town arrived from Alabama and Georgia and was shipped down the Apalachicola River. The cotton was then shipped to the north for processing. The cotton boom ended with the construction of east-west railroads and there was a decade-long recession.

In the 1870's the economy recovered with the development of the area's vast timber resources. North Florida had an abundance of yellow pine and cypress trees. The logs were sent down the river to mills and processing plants where they were used for lumber and shingles. The timber boom lasted from the 1880s well into the 1920s. At this point the supply of pine and cypress were depleted and the processing plants moved on.

Ultimately, though, it was fishing that sustained the town through good times and bad. With its perfect mix of salt and fresh waters, the town seized upon the bountiful harvest of Apalachicola Bay's world famous oysters and the nearby Gulf seafood, marketing them to the world. One reason that Apalachicola rose to prominence in the seafood industry is that in the mid-1800s, through his attempts to develop an air cooling systems for the treatment of malaria and yellow fever patients, Dr. John Gorrie devised the first ice-making and refrigeration systems.

These systems were adapted to the needs of commercial seafood processing and shipment, and improved opportunities for long-distance transport of seafood products.

In recent years there were a number of events that have impacted the community of Apalachicola. One of the primary impacts was the implementation of the constitutional net-ban that unleashed a debate between commercial fishers, recreational fishers, conservationists, and government officials. The net ban prohibited the use of entangling nets in all Florida waters, as well as other nets larger than 500 square feet of mesh area in near shore and inshore waters. This action, passed by voter referendum in 1995, cut the output of commercial fishing by more than half. While the oyster business remains brisk with over \$14 million dollars annually, the fishermen who lived to provide the country with snapper, grouper, amberjack and all of the finfish delicacies have had to rethink their way of life. The Polk Online.com wrote:

There aren't many other jobs along this quiet, undeveloped, out-of-the way stretch of Gulf of Mexico shoreline between Panama City and Apalachicola. Especially since commercial fishing -- another local industry -- has been hurt by a ban on certain nets. "This little town's sick," Gene Raffield said. His family's commercial fishery was here before the mill opened in 1938. But Raffield has no jobs to offer laid-off mill workers -- the net ban has curbed business. His fleet of fishing boats has dropped from 26 to four. "It affects the dough out of us when our neighbors can no longer live here."

Other fishers have pointed to the use of the Turtle Exclusion Devices, new regulations on the oyster industry, and so on. Fishers feel that fishing regulations have been poorly implemented. The News Herald.com summarized the feelings of many of the local people:

On Monday, fishermen from both sides of the aisle, commercial and recreational, discovered that they have something in common: antipathy for a federal agency that threatens their livelihoods and is effectively accountable to no one. They gathered at the Marriott Bay Point, there to sup on egg rolls and raw vegetables and to talk about what they might do to preserve their ways of life. They agreed that the National Marine Fisheries Service is an out-of-control bureaucracy whose increasingly Draconian rulemaking is grounded in bad science and carried out without regard for social and economic impacts on individuals, families and communities.

The article touched on many of the sentiments of the fishers in the area. Overall there has been a feeling that fishing regulations have added costs and unfairly hurt the competitive advantage of the industry. There has not however been a united front as many of the commercial fishers blame the recreational fishers for implementing the net ban. The article also brought up the concept of poor science in which the danger that poorly implemented species management of one species may ultimately lead to the over-fishing of other species.

At the same time conservationists have pointed out the importance of conservation of the Apalachicola River Basin, which travels through coastal marshes to the Gulf of Mexico and Apalachicola Bay, because it has been one of the most productive estuaries in the Northern Hemisphere. The Apalachicola River supports the highest diversity of freshwater fish species in the state, and its basin holds the second highest concentration of amphibian and reptile species in

North America. Shrimp, blue crab, striped bass, grouper, drum and flounder populations that depend on the river and bay support a multi-million dollar commercial fishing industry. The conservationists have felt without sufficient restrictions there will be no fishing industry.

There are no simple solutions to the use of the natural resources of Apalachicola Bay. Today, oysters are still a huge part of the Apalachicola economy. In 1997, 1.4 million pounds of oysters were shucked in Franklin County seafood houses. The Bay produces 90% of Florida's oysters. The Bay has been monitored to ensure the continued health and productivity of the oyster beds for generations to come. Apalachicola is the headquarters of a United Nations Biosphere Reserve and Estuarine Sanctuary the largest of 22 existing reserves in the United States. The reserve has protected the wetlands, bays and coastal uplands, which fall within its boundaries. Tensions between scientists at the reserve and the community have remained very high (according to the key informant interviews).

The other major event that has impacted the areas of Apalachicola was the closing of the St. Joe Paper Mill. The mill provided a great deal of employment and taxes for an area where there was already a great deal of underemployment. The PolkOnline.com wrote:

Three generations have worked at the hulking mill that looms over the town on St. Joseph's Bay, turning timber from nearby pine forests into paper. Wages were good. The tax-base was high. That made the schools good, the parks nice. But the mill was sold and then shut down, throwing many of the town's residents out of work. With unemployment running as high as 20 percent in recent months, surrounding Gulf County is one of the few places in America that has missed the economic boom of the 1990s. Things were so good when St. Joe Paper Co. ran the mill, no one prepared for the day it might be gone. But in 1996, St. Joe sold the mill. Then last August the current owner, Florida Coast Paper, closed it down.

In an area that has traditionally been naturally resource dependent the mill provided an important value added product for the local economy. The closing caused the already high unemployment in the areas to leap even higher.

Though Apalachicola still produces the bulk of Florida's oyster crop, as does various kinds of fishing, recently there has been a tourist boom especially around St George Island. The town has also developed the image of the sleepy fishing village in order to promote tourism. Tourists may visit old warehouses and the docks in order to see the fishing village. The oysters have also been a great attraction for the town. Other tourist attractions have included the Gorrie museum and the St Vincent Wildlife refuge.

Tourism has also changed the face of the community. Apalachicola has begun to promote the image as a traditional fishing village to attract visitors. When coupled with the white beaches of St. George's Island the area has become a year round destination for tourists. The tourist industry has provided much needed revenue for the local economy. This transition has had a mixed impact on the community as local property prices have skyrocketed and have forced many locals to move because of the elevated costs of living. The next section examines key demographic indicators of the citizens of Apalachicola.

5.4.2 Census Demographics

5.4.2.1 Age Distribution

The demographics showed trends very similar to those witnessed in the other communities that have been profiled (see Table 5.4.1). Overall there has been an increase in population in Franklin County between 1970 and 2000, increasing from 7,065 to 11,057. There has been a drop in the proportion of youth (0-24 years of age) from a range of 38.24% in Franklin County and 48% in Apalachicola to 25.59% and 28.87% in 2000. In the same time period, the proportion of the population aged 25-64 increased from 44.58% in Franklin County and 38.68% in Apalachicola in 1970 to 58.66% and 50.64% in 2000. In Franklin County the proportion of the population aged 65 and over decreased from 17.18% in 1970 to 15.74% in 2000. However, In Apalachicola the proportion of the population aged 65 and over actually increased from 13.32% in 1970 to 20.48% in 2000.

5.4.2.2 Housing Units

The number of housing units increased from 3,409 to 7,180 in Franklin County and from 1,182 to 1,207 in Apalachicola from 1970 to 2000 (see Table 5.4.2). For Franklin County in 1980, 425 new units had been built in the previous five-year period and 738 units had been built in the previous six to ten year period. For Franklin County in 1990, 863 new units had been built in the previous five-year period and 988 units had been built in the previous six to ten year period. For Apalachicola in 1980, 84 new units had been built in the previous five-year period and 110 units had been built in the previous six to ten year period. For Apalachicola in 1990, 26 new units had been built in the previous five-year period and 104 units had been built in the previous six to ten year period.

5.4.2.3 Racial Distribution

The majority of the population of Franklin County (81.26% in 2000) and Apalachicola (63.41% in 2000) were white (see Table 5.4.3). Apalachicola had the highest proportion of African-American residents with 34.92% in 2000, while in Franklin County only 16.32% were African American. The racial distributions of Franklin County and Apalachicola have been relatively stable from 1970 to 2000.

5.4.2.4 Educational Attainment

In 1970, 21.12% of adults 25 years or older in Franklin County had a High School diploma, this figure increased to 30.23% in 1990. For Apalachicola in 1970, 25.15% of adults 25 years or older had a High School diploma, this figure decreased to 24.21% in 1990. In Franklin County, for those adults 25 years or older, in 1970 only 3.97% had college degrees, and this figure increased to 12.25% in 1990. For Apalachicola in 1970, only 4.37% of adults aged 25 or older had college degrees, and this figure increased to 11.85% in 1990.

Table 5.4.1. Census Demographic Information for Franklin County and Apalachicola.

Age Distribution	Location	1970	%	1980	%	1990	%	2000	%
Persons Age 0-24	Franklin County	2,464	38.24%	3,160	41.24%	2,860	31.89%	2,830	25.59%
Persons Age 0-24	Apalachicola	1,478	48.00%	991	38.20%	977	36.09%	674	28.87%
Persons Age 25-64	Franklin County	2,873	44.58%	3,356	43.80%	4,493	50.11%	6,486	58.66%
Persons Age 25-64	Apalachicola	1,191	38.68%	1,159	44.68%	1,243	45.92%	1,182	50.64%
Persons Age 65+	Franklin County	1,107	17.18%	1,145	14.94%	1,614	18.00%	1,741	15.74%
Persons Age 65+	Apalachicola	410	13.32%	444	17.11%	487	17.99%	478	20.48%

Table 5.4.2. Housing Units for Franklin County and Apalachicola.

	Location	1970	%	1980	%	1990	%	2000
Total Household Units	Franklin County	3,409		3,579		5,891		7,180
Total Household Units	Apalachicola			1,182		1,200		1,207
Units Built 0-5 Year	Franklin County			425	11.87%	863	14.65%	
Units Built 0-5 Year	Apalachicola			84	7.10%	26	2.16%	
Units Built 6-10 Year	Franklin County			738	20.62%	988	16.77%	
Units Built 6-10 Year	Apalachicola			110	9.30%	104	8.66%	

5.4.2.5 Industry

Employment in agriculture, fishing, and mining, decreased in both Franklin County (21.69% in 1970 to 13.34% in 1990) as well as Apalachicola (21.77% in 1970 to 5.99% in 1990; see Table 5.4.4). These findings support the perspectives that were given in the key informant interviews about the change in the economy in Apalachicola, as it has become more of a tourist destination. The overall importance of the service industry was evident with between 27.02% and 29.68% of the employment coming from the service industry respectively in Franklin County and Apalachicola (1990). Wholesale and retail transportation also provided significant support for the local economy as it generated between 30.90% and 39.28% of the employment (Franklin County, Apalachicola respectively).

5.4.2.6 Average Salary

There was an increase the average annual wage from \$4,523 (Apalachicola) and \$4,585 (Franklin County) per year in 1970 to \$17,601 (Apalachicola) and \$25,599 (Franklin County) in 1990. The next section will provide an economic profile of the aggregated community of Apalachicola.

5.4.3 General and Fishing Employment for 1994 and 1996

This section relies upon data for the aggregated zipcodes representing the community Apalachicola. Data was obtained from the Zipcode Business Patterns from the U.S. Department of Commerce. An emphasis was placed on the percentage of employment provided by fishing as compared to other occupational sectors as an indicator of economic fishing dependency.

The tables showed a number of trends that were first observed in the census data (see Table 5.4.5). The majority of employment in Apalachicola is in the service sector with 53.45% followed by the retail sector with 21.96% of the total employment. Fishing was third in local employment providing 7.75%. This data revealed that the majority of the employment was in the service and retail sectors, but fishing still held an important place in the local economy.

Employment in fishing showed a slight increase to 10.88% of the total employment in Apalachicola in 1996 (see Table 5.4.5). There was a decrease in the

employment in the service industry (22.54% of total employment). Overall the retail sector provided 34.68%, finance-12.08%, and construction-8.53% of local employment. This data showed that overall that the employment in the fishing industry was stable. There was not a significant impact of the net ban because the majority of the fishers were shrimping and harvesting oysters.

5.4.3.1 Fishing Employment by Sector 1994-1996

Table 5.4.6 provided the percentage of employment provided by the different occupations for fishing employment in Apalachicola. These tables were based upon the Standard Industrial Classification (SIC) coding system used by the Census Bureau and Bureau of Economic Analysis. The majority of the employment in the fishing sector for 1994 came from fish and seafood (74.48%) and from the fresh or frozen prepared fish (19.27%). In 1996 fish and seafood increased to 91.16%. Fresh or frozen prepared fish (3.86%) and fishing, hunting, and trapping (4.97%) were the other important sectors. Overall this data showed that fish and seafood provided most of the employment but the valued processing of fresh and frozen fish was also important. There were a number of fish houses that processed both the local fish and oysters as well handling imports to meet the demand of buyers. The next section presents results from key informant interviews including community leaders (mayor, council members, etc.), businesses (tourism, fishing, industry), as well as commercial and recreational fishermen. Topics included in the interviews were commercial and recreational fishing employment, economic and social aspects of fishing dependency (both commercial and recreational), community indicators, as well as milestones in the community's history. These interviews were conducted to validate the data from the secondary sources and examine the perspectives of the key informants on past, present, and future economic and social trends.

Table 5.4.3. Racial Distribution and Educational Attainment for Franklin County and Apalachicola.

Racial Distribution	Location	1970	%	1980	%	1990	%	2000	%
White Persons	Franklin County	5,742	81.27%	6,509	83.47%	7,777	86.60%	8,983	81.26%
White Persons	Apalachicola	1,946	61.76%	1,625	60.68%	1,729	63.40%	1,480	63.41%
African American	Franklin County	1,323	18.73%	1,100	14.10%	1,128	12.56%	1,804	16.32%
African American	Apalachicola	1,205	38.24%	989	36.93%	958	35.13%	815	34.92%
Latino	Franklin County	0	0.00%	189	2.42%	75	0.83%	268	2.42%
Latino	Apalachicola	0	0.00%	64	2.38%	40	1.46%	39	1.67%
Educational Attainment	Location								
Age of 25+ w/ 0-8 Years of Education	Franklin County	1,745	38.15%	1,495	29.93%	1,066	17.24%		
Age of 25+ w/ 0-8 Years of Education	Apalachicola	704	38.49%	540	31.82%	379	21.69%		
Age of 25+ w/ 9-11 Years of Education	Franklin County	832	18.19%	1,024	20.50%	1,408	22.78%		
Age of 25+ w/ 9-11 Years of Education	Apalachicola	294	16.07%	413	24.34%	436	24.96%		
Age of 25+ w/ HS diploma	Franklin County	966	21.12%	1,222	24.46%	1,869	30.23%		
Age of 25+ w/ HS diploma	Apalachicola	460	25.15%	442	26.05%	423	24.21%		
Age of 25+ w/ 13-15 Years of Education	Franklin County	255	5.57%	353	7.06%	826	13.36%		
Age of 25+ w/ 13-15 Years of Education	Apalachicola	63	3.44%	135	7.95%	235	13.45%		
Age of 25+ w/ College Degree	Franklin County	182	3.97%	407	8.14%	757	12.25%		
Age of 25+ w/ College Degree	Apalachicola	80	4.37%	73	4.30%	207	11.85%		
Drop outs	Franklin County	238	5.20%	205	4.10%	96	1.55%		
Drop outs	Apalachicola	91	4.97%	36	2.12%	18	1.03%		
Not in School	Franklin County	356	7.78%	289	5.78%	160	2.58%		
Not in School	Apalachicola	137	7.49%	58	3.41%	49	2.80%		

Table 5.4.4. Industries in Franklin County and Apalachicola.

Industry	Location	1970	%	1980	%	1990	%
Agriculture, Fishing, and Mining	Franklin County	661	26.69%	637	26.45%	419	13.31%
Agriculture, Fishing, and Mining	Apalachicola	219	21.77%	219	27.58%	48	5.99%
Construction	Franklin County	129	5.21%	115	4.78%	235	7.46%
Construction	Apalachicola	22	2.19%	36	4.53%	48	5.99%
Business Services	Franklin County	20	0.81%	86	3.57%	38	1.21%
Business Services	Apalachicola	15	1.49%	31	3.90%	0	0.00%
Communication/ Utilities	Franklin County	39	1.57%	64	2.66%	55	1.75%
Communication/ Utilities	Apalachicola	19	1.89%	19	2.39%	26	3.24%
Manufacturing	Franklin County	485	19.58%	186	7.72%	199	6.32%
Manufacturing	Apalachicola	156	15.51%	100	12.59%	44	5.49%
Durable Manufacturing	Franklin County	97	3.92%	75	3.11%	49	1.56%
Durable Manufacturing	Apalachicola	31	3.08%	39	4.91%	0	0.00%
F.I.R.E.	Franklin County	65	2.62%	89	3.70%	172	5.46%
F.I.R.E.	Apalachicola	35	3.48%	21	2.64%	22	2.74%
Services	Franklin County	419	16.92%	203	8.43%	851	27.02%
Services	Apalachicola	234	23.26%	92	11.59%	238	29.68%
Wholesale/ Retail Transportation	Franklin County	553	22.33%	889	36.92%	973	30.90%
Wholesale/ Retail Transportation	Apalachicola	275	27.34%	222	27.96%	315	39.28%
Transportation	Franklin County	9	0.36%	64	2.66%	158	5.02%
Transportation	Apalachicola	0	0.00%	15	1.89%	61	7.61%

Table 5.4.5. Employment by Sector in Apalachicola in 1994 and 1996

Employment in 1994	Number of Employees	%
Retail	544	21.96%
Manufacturing	28	1.13%
Agriculture	19	0.76%
Construction	62	2.50%
Finance	155	6.25%
Transportation	74	2.98%
Mining	0	0.00%
Wholesale Trade	79	3.18%
Fishing	192	7.75%
Service	1,324	53.45%
Employment in 1996	Number of Employees	%
Retail	577	34.68%
Manufacturing	28	1.68%
Agriculture	24	1.44%
Construction	142	8.53%
Finance	201	12.08%
Transportation	61	3.66%
Mining	0	0.00%
Wholesale Trade	75	4.50%
Fishing	181	10.88%
Service	375	22.54%

Table 5.4.6. Fishing Employment by Sector in Apalachicola in 1994 and 1996

Employment in 1994	Number of Employees	%
Fish and Seafoods	143	74.48%
Marinas	0	0.00%
Fresh or Frozen Prepared Fish	37	19.27%
Canned and Cured Fish and Seafoods	0	0.00%
Fishing, Hunting, and Trapping	12	6.25%
Employment in 1996	Number of Employees	%
Fish and Seafoods	165	91.16%
Marinas	0	0.00%
Fresh or Frozen Prepared Fish	7	3.86%
Canned and Cured Fish and Seafoods	0	0.00%
Fishing, Hunting, and Trapping	9	4.97%

5.4.4 Key Informant Interviews

The key informants in Apalachicola described a community as being fishing dependent when “a large portion of the economy—directly and indirectly—is involved in fishing.” The threshold for the involvement was set between 20% and 50% depending on the informant. The informants also stressed the importance of fishing to the local culture when defining dependency. One informant elaborated on this concept when he stated: “It is however a way of life. The customs, jobs, and traditions are very important for the people that live in the community. Apalachicola has always been dependent on fishing.”

Respondents from the key informant interviews stated that the Apalachicola fishing industry and the community it sustains has been affected by two events: the intensification of tourism and residential development and the regulation of fishing via state and federal law. These phenomena have combined and made Apalachicola and surrounding communities a dynamic, rapidly changing region. Many of the people interviewed during the course of the study describe the Apalachicola of today as almost unrecognizable from the Apalachicola of as few as five years ago, a transformation they attribute to massive increases in tourism and the gentrification of their community’s historic neighborhoods. Likewise, many people interviewed attribute changes in livelihoods to increased government regulation, regulations generally aimed at environmental protection, the maintenance of fish stocks, and consumer health protection.

Many of the respondents were not sure if the economy was fishing dependent. One respondent stated; “Less than 50% of economy comes from fishing. Tourism has tipped the scales but commercial fishing remains central to the identity of the community. Commercial fishing is much more important than recreational. Everyone wants to be a charter fisherman (but not everyone has what it takes) because the money is good. In the past five years, recreational fishing has exploded in Apalachicola.” The statement was important because it revealed the growing importance of tourism and recreational fishing. It also identified the importance of commercial fishing to the identity of the community.

Fishing regulations were seen as one of the central milestones of the community’s history. One respondent gave his feelings about the impact of regulations when he stated: “There used to be a lot of net fishermen; the Net-Ban has done away with them ... shrimpers have been effected by limitations, TEDs (Turtle Exclusion Devices) hurt many fisherman, as well as new regulations for oysters.” Another respondent focused on the impact of the Net-Ban and stated; “After the net-ban, over 100 families left Apalachicola. This sent the public schools into a tail-spin, because when all of those kids pulled out of the system, the schools had planned their year with a much higher population than it actually had.” As far as commercial fishing is concerned, most of the participants expressed the belief that the role of commercial fishing, as a major component of the economy, will diminish in the future. Whether this will occur because of perceived or real ‘over-regulation’ of fisheries by governmental agencies or competition from lower-priced seafood imports or because recreational fishing will push out commercial fishing is uncertain. What does appear certain is that in Apalachicola, dependence on commercial fishing as a livelihood is a diminishing.

At the same time, however, recreational and charter fishing is on the rise. A number of former commercial fishers have secured charter guide licenses and, while they may continue to hold permits for one or more commercial fishing practices (e.g. oystering), they have also established charter operations, generally serving clients from urban areas such as Atlanta and Tallahassee. While the guides may not work as frequently as commercial fishers, they are able to make more money over a shorter time period and may supplement this income with commercial fishing. Apparently, many of the younger residents of the area are opting to go into charter fishing rather than commercial fishing, because they feel that the economic prospects are much better in the latter vocation.

However, as a number of older guides pointed out, the recent increase in demand for charter trips is associated with the growing national economy. The growth that has occurred over the past ten years has led to an increase in recreational fishing and, in general, leisure activities. Charter fishing is one of these, and the demand for charter trips has increased the demand for guides. However, many of the guides realize that a downturn in the economy could result in a decrease demand for their services, and thus they often maintain their commercial permits.

The second major milestone that has impacted the community has been the expansion of the tourist industry. Depending on the position and experiences of each participant, attitudes towards these changes vary. Some respondents view increased tourism as an asset, while others view it as an inconvenience and a disruption of their ways of life. Whatever the perspective, the overwhelming consensus is that tourism in Apalachicola is causing major transformations in the economy and culture of the region. For example, rising land costs and real estate taxes are pointed to as a prime reason that locals are selling their property and leaving the area. One individual stated; “people that had houses worth \$40,000 are now worth \$400,000”. Likewise, a number of study participants blame fishery regulations for taking away jobs and disrupting families. The outcome of this transformation is uncertain, however many of the participants only half-jokingly referred to the Apalachicola of the future as the “Key West” of the north.

Thus far, the research has presented a portrait of Apalachicola. Apalachicola has traditionally been a natural resource dependent community. Government regulations, the closing of the St. Joe Paper Company, and the promotion of tourism have changed the face of the community of Apalachicola. Apalachicola still produces the bulk of Florida's oyster crop. Eastpoint has become the vital hub for the communities housing and fish processing. There has been a tourist boom especially around St George Island and the sleepy fishing village of Apalachicola (this is the image that has been promoted). There has been a decrease in the number of families and an influx of “newcomers.” This transition has had a mixed impact on the community as local property prices have skyrocketed and have forced many locals to move because of the elevated costs of living.

5.4.4.1 Telephone Survey Demographics

A telephone survey was conducted with 170 residents of Apalachicola. About 62% of the respondents were male and 38% were female. The majority of respondents were married 57.74%, 14.92% were divorced, 19.64% were single, and 8.33% were widowed (see Table 5.4.7). Educational attainment of the sample was as follows: 31.36% were high school graduates, 4.14% had vocational and technical degrees, 21.30% had some college education, 18.34% were college graduates, and 7.10% percent received a graduate or professional degree (see Table 5.4.8).

Table 5.4.7. Demographics for Apalachicola.

Gender		
	Frequency	%
Male	105	61.76%
Female	65	38.24%
Marital Status		
Single	33	19.64%
Married	97	57.74%
Divorced	24	14.29%
Widow	14	8.33%
Education		
8th grade or less	8	4.73%
Some high school	22	13.02%
High school graduate	53	31.36%
Technical/Vocational	7	4.14%
Some college	36	21.30%
College graduate	31	18.34%
Graduate school/ Professional	12	7.10%
Race		
African American	22	12.94%
White	145	85.29%
Asian	0	0.0%
Other	3	1.8%
Hispanic Origin		
No	163	95.88%
Yes	7	4.11%
Living Situation		
Own home	137	80.59%
Rent home	19	11.18%
Live with parents	10	5.88%
Age (M=51.44, SD=15.10)		
0-24	17	7.7%
25-64	150	67.6%
64+	17	24.8%
Years in the Community		
	M	SD
Years	32.22	21.64

In Apalachicola, 85.29% of the respondents were white. The proportion of the sample for African Americans was 12.94% and 4.11% were Hispanic. The majority (80.59%) of respondents owned their homes. The mean age for the sample was 51.44 years. The mean length of residency was 32.22 years, revealing a stable population in the community.

There was a substantial proportion of the sample that was not working because they were not employed, disabled, or retired (25.88%, see Table 5.4.8). The majority of the people in Apalachicola were working full time (61.76%). Only 12.35% of the population of the town sought employment outside of the community.

Table 5.4.8. Employment Demographics for Apalachicola.

Employment Status		
	Frequency	Percent
Full time	102	60.00%
Part time	24	14.12%
Not employed/ retired/ disabled	44	25.88%
Place of Work		
Outside	21	12.35%
Inside	105	61.76%
Retired/ Don't Work	44	25.88%
Occupation		
Not Employed	44	25.88%
Agriculture	1	0.58%
Clerical	15	8.82%
Fishing	16	9.41%
Manufacturing	4	2.35%
Professional	35	20.59%
Retail	12	7.05%
Services	40	23.53%
Other	3	1.76%

5.4.4.2 Dependency

This section of the survey examines issues of commercial and recreational fishing dependency, the importance of fishing to local culture, tourist dependency, and the linkage between tourism and fishing. The data suggested that fewer than 10% of the respondents worked in fishing. Respondents thought that many community members were seen as being involved in commercial fishing (58.85%) while 36.41% were involved in recreational fishing (see Table 5.4.9). This figure is much higher than the actual employment data. Commercial fishing was perceived as being the most important economic activity (80.12%), followed by tourism (15.06%), and then recreational fishing 6.02% (see Table 5.4.10).

Table 5.4.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Apalachicola According to Respondents.

Question	Percent
Percentage of Residents involved in Commercial Fishing Industry	58.58%
Percentage of Residents involved in Recreational Fishing Industry	36.41%

Table 5.4.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Apalachicola.

	Least	%	Next	%	Most	%	M	SD
Rank of Commercial Fishing	13	7.83%	20	12.04%	133	80.12%	2.72	0.59
Rank of Recreational	83	50.00%	73	43.97%	10	6.02%	1.56	0.60
Rank of Tourism	69	41.60%	72	43.37%	25	15.06%	1.73	0.70

Table 5.4.11 examined the economic and social importance of fishing to the local community. The majority (91.67%) of the respondents stated the economy was dependent on commercial fishing. Additionally, 62.33% responded that charter-fishing makes a contribution to the economy and exactly half of the respondents stated the economy was dependent on recreational fishing. The results reinforce the importance of commercial fishing to the local community. These figures also supported the fact that recreational and charter fishing has increased in their importance. As one key informant stated: “everyone wants to have a captain’s license.”

Over 97% replied that the commercial fishing was important to the local culture while 86.79% stated commercial fishing was attractive to the local landscape (see Table 5.4.11). There was a strong linkage between the fishing culture and tourism with 78.18% reporting that commercial fishing was an important draw for tourist. When coupled with the key informant interviews these results showed a community that has carefully utilized their fishing tradition. The fishing image has become the cultural narrative of the community and is seen as their community identity. The community has embraced this image but questions have remained whether the industry can survive the battle for valuable dock space, foreign competition, and government regulations.

Table 5.4.11. The Importance of Fishing to the Local Economy in Apalachicola.

	No	%	Yes	%	M	SD
Economy is Commercially Fishing Dependent	14	8.33%	154	91.67%	0.917	0.28
Contribution of Charter Fishing to the Local Economy	55	37.70%	91	62.33%	0.623	0.49
Impact of Fishing Regulations on the Ability to make a Living	14	8.75%	146	91.25%	0.913	0.28
Importance of Fishing to the Local Culture	4	2.37%	165	97.63%	0.976	0.15
Economy is Tourist Dependent	46	27.90%	119	72.12%	0.721	0.45
Economy is Dependent on Recreationally Fishing	81	50.00%	81	50.00%	0.5	0.5
Commercial Fishing is an Important Draw for Tourist	36	21.80%	129	78.18%	0.782	0.41
Commercial Fishing is Attractive to the Local Landscape	21	13.20%	138	86.79%	0.868	0.34

5.4.4.3 Community

Table 5.4.12 examined the community indicators of the locality, local society, and community action. Over 97% reported there were community celebrations and 88.41% expressed there was a major event in the community's past. These indicators showed a shared community history as well as current activities that were identified by the vast majority of the respondents, and both are indicators of local society.

Table 5.4.12. The Existence of Community Indicators in Apalachicola..

	No	%	Yes	%	M	SD
Existence of a Community Monument	128	82.58%	27	17.42%	0.17	0.38
Existence of a Tourist Center	16	9.88%	146	90.12%	0.90	0.30
Sign to Mark the Community Border	49	32.89%	100	67.11%	0.67	0.47
Central Community Focal Point	15	8.93%	153	91.07%	0.91	0.29
Periodic Community Celebration	4	2.38%	164	97.62%	0.98	0.15
Community Owned Cemetery	11	7.43%	137	92.57%	0.93	0.26
Community Band	68	45.33%	82	54.67%	0.55	0.50
Community Wide Project Over the Last Five Years	21	12.35%	138	81.18%	0.87	0.34
A Building for Community Meetings	27	15.88%	138	81.18%	0.84	0.37
Citizens Organization to Improve the Community	18	10.59%	137	80.59%	0.88	0.32
Group to Encourage Community Growth	27	15.88%	127	74.71%	0.82	0.38
Major Event in the Community's Past	19	11.59%	145	88.41%	0.88	0.32

There were several questions about purposive community action (see Table 5.4.12). Some 74.41% of the respondents stated there was a group to encourage community growth. Another 80.59% stated there was a citizen's organization to improve the community. Over 81% of the respondents that responded that there was a building for community meetings were utilized as indicators of community action.

The existence of a community monument, tourist center, a sign to mark the community border, central community focal point, and a community owned cemetery were used as community indicators for both the locality and local society (see Table 5.4.12). Only 17.12% indicated that there was a community monument. However, 90.12% identified a tourist center, 67.11% indicated that there was a sign to mark the community border, 91.07% indicated that there was a central community focal point, and a 92.57% identified a community owned. There was a high level of identification for most indicators of locality and local society.

Table 5.4.13 examined the local society by investigating the capacity of local residents to meet their daily needs inside the community. The majority of the residents could satisfy their needs within a ten-mile radius. A majority of respondents did their banking, bought groceries, and went to church within a ten-mile radius. The majority of the respondents generally bought their clothes (89.16%) outside of a ten mile radius. About one third received medical services (34.91%) and repaired their car (29.41%) beyond the ten-mile radius. The key informant interviews revealed that the other services were available to the community but many sought them outside because of reduced cost, specialization of service, or perceived superior quality.

Table 5.4.13. The Distance Traveled in Order to Satisfy Needs in Apalachicola.

Distance/ Miles to Travel	<1	%	1-3	%	4-6	%	7-10	%	10+	%
Distance to Buy Clothes	1	0.60%	5	3.01%	3	1.81%	9	5.42%	148	89.16%
Distance to Groceries	55	32.35%	76	44.71%	14	8.24%	8	4.71%	17	10.00%
Distance to Medical Services	39	23.08%	46	27.22%	19	11.24%	6	3.55%	59	34.91%
Distance to Attend Church	63	40.91%	69	44.81%	16	10.39%	3	1.95%	3	1.95%
Distance to Repair Car	35	22.29%	54	34.39%	16	10.19%	5	3.18%	47	29.94%
Distance to Bank	54	32.14%	87	51.79%	17	10.12%	4	2.38%	6	3.57%

The survey examined if community respondents felt at home within the community and were involved in the community (see Table 5.4.14). The majority of the respondents felt very at home in the community with 85.21%. A combined 75.89% responded they were somewhat or very involved in the community.

Table 5.4.14. Responses Toward Feeling At Home and Being Involved in Apalachicola.

	Not at All	%	Somewhat	%	Very	%	M	SD
Feel at Home	2	1.18%	23	13.61%	144	85.21%	2.84	0.40
Involved in Community	41	24.12%	99	58.24%	30	17.65%	1.94	0.64

The survey also examined community problems as perceived by the respondents (Table 5.4.15). The major problems identified were increasing land values (58.04% indicated a serious problem) and increasing property taxes (56.02% indicated a serious problem). The respondents to the key informant interviews said that there were many people that had sold their houses and moved because of the changes in the cost of living. This was seen as being connected to a population and occupation shift driven by the growth of local tourism.

Other issues that were asked were: unemployment (31.52% indicated a serious problem), lack of economic growth (39.41% indicated a serious problem), access to health care (31.76% indicated a serious problem) and access to quality education (48.78% indicated a serious problem). The problems of health care and education were repeatedly identified in the key informant interviews in which the respondents stated that the town lacked sufficient taxes to provide for quality service in both areas. These problems seem to be important challenges that face the community.

Table 5.4.15. Community Problems in Apalachicola.

	Not	%	Somewhat	%	Serious	%	M	SD
Lack of Economic Growth	32	19.75%	66	40.74%	64	39.51%	2.20	0.75
Increasing Residential Development	56	33.33%	63	37.50%	49	29.17%	1.96	0.79
Loss of Commercial Dockage	49	33.33%	57	38.78%	41	27.89%	1.95	0.78
Increasing Land Value is a Problem	33	19.88%	36	21.69%	97	58.43%	2.39	0.80
Increasing Property Taxes	24	14.46%	49	29.52%	93	56.02%	2.42	0.73
Unemployment	39	23.64%	74	44.85%	52	31.52%	2.08	0.74
Access to Health Care	45	26.47%	64	37.65%	54	31.76%	2.06	0.78
Regulation of Fisheries	16	10.60%	53	35.10%	82	54.3%	2.44	0.68
Pollution of the Marine Environment	60	35.29%	71	41.76%	33	19.41%	1.84	0.74
Traffic Congestion	91	53.53%	52	30.59%	27	15.88%	1.62	0.75
Increasing Newcomers	64	37.87%	62	36.69%	43	25.44%	1.88	0.79
Growth of Tourism	77	46.39%	55	33.13%	34	20.48%	1.74	0.78
Access to Quality Education	32	19.51%	52	31.71%	80	48.78%	2.29	0.78

Table 5.4.16 examined the key factors that made individuals influential. The attributes identified as being influential were personal characteristics (47.06% very important) community participation (50.30% very important), and whom you know (48.21% very important). Other important attributes were length of time in the community (43.37% very important) and family background (37.50% very important). These results showed a person's family and friends still have an important influence in the individual's status in the community.

In summary, there were important services that were being sought outside of the community such as car repair and health services. The community also faced important problems with increasing property taxes and land values. There was a shift in the demographics of the town as it moved from an economy dependent upon commercial fishing industry to a more tourism dependent economy. Much of this change was blamed on regulations that had impacted the base of the community. The town continued to embrace their heritage as a "fishing community" and utilized it to promote tourism. Recreational fishing was also seen as an up and coming industry.

Table 5.4.16. Important Factors for a Person to be Influential in Apalachicola.

	Not at All	%	Somewhat	%	Very	%	M	SD
Length of Residence	39	23.49%	55	33.13%	72	43.37%	2.20	0.80
Family Background	40	23.81%	65	38.69%	63	37.50%	2.14	0.77
Occupation	50	29.59%	69	40.83%	50	29.59%	2.00	0.77
Land Ownership	58	34.52%	61	36.31%	49	29.17%	1.95	0.80
Wealth	79	46.75%	60	35.50%	30	17.75%	1.71	0.75
Personal	28	16.47%	62	36.47%	80	47.06%	2.31	0.74
Community Participation	16	9.47%	68	40.24%	85	50.30%	2.41	0.66
Who You Know	38	22.62%	49	29.17%	81	48.21%	2.26	0.80
Political Affiliation	76	47.20%	59	36.65%	26	16.15%	1.69	0.74
Holding Official Office	61	36.97%	71	43.03%	33	20.00%	1.83	0.74
Political Opinions	68	41.72%	60	36.81%	35	21.47%	1.80	0.77
Age	92	54.76%	62	36.90%	14	8.33%	1.54	0.65
Gender	116	69.05%	42	25.00%	10	5.95%	1.37	0.59
Level of Education	54	32.14%	66	39.29%	48	28.57%	1.96	0.78
Religious Affiliation	107	64.07%	45	26.95%	15	8.98%	1.45	0.66

5.4.4.4 Net Ban

The key informant interviews identified the net ban as one of the milestones of the community's history. This section quantifies the respondents' perceptions of the net ban. Table 5.4.17 examined the knowledge of the 1994 net ban. The responses were coded 0 = no and 1 = yes and therefore are presented as a percentage of yes responses. Over 82% of the residents had knowledge of the net ban. These respondents also either agreed (18.95%) or strongly agreed (73.86%) that the net ban had a large negative impact on the community of Apalachicola (see Table 5.4.18).

Table 5.4.17. Community Respondents' Knowledge of the 1994 Net Ban in Apalachicola. .

	No	%	Yes	%	M	SD
Knowledge of the Net Ban	29	17.06%	141	82.94%	0.83	0.38

Table 5.4.18. The Negative Impact of the 1994 Net Ban in Apalachicola.

	Strongly Disagree	%	Disagree	%	Agree	%	Strongly Agree	%	M	SD
Impact of the 1994 Net Ban	3	1.96%	8	5.23%	29	18.95%	113	73.86%	3.65	0.67

5.5 Fernandina Beach (Amelia Island)

5.5.1 History

Fernandina Beach (Amelia Island) is located in Nassau County, Florida, on the northernmost barrier island of the state's east coast. The island, known as Amelia Island, extends from the mouth of the St. Mary's River southward to Nassau Sound and is just over thirteen miles long and two miles wide

The exceptional history of Fernandina, a small seaside resort community, was based on that fact that there were eight different flags that were flown in the community. The first record of European activity on the island was in 1562, when John Ribault sailed into the river he called the "Seyne." At this time, Timuquanan Indians inhabited the island. The French old colonial flag only flew for a brief period of time as the Spanish defeated the French in 1565 and moved into the vicinity. Spain and England were battling for control of the island for the next 70 years (Pink, 1949).

Another enemy appeared when a group of rebels overthrew the Spanish in 1812. The flag of the Patriots of Amelia Island flew until the next day whereupon the American flag replaced it. Spain recaptured the island after demanding it be returned, but could not maintain control (Pink, 1949).

In 1817, a Scotsman Sir Gregor MacGregor took control of the island. The conqueror raised the Green Cross of Florida. Yet another flag was raised as Jared Irwin, Ruggles Hubbard and Luis Aury elevated the Mexican Rebel Flag in late 1817. These men had frustrated the efforts of the Spanish to regain control of the island (Pink, 1949).

In 1821 the Spanish ceded Florida to the United States in 1821. During the Civil War (1861 to 1862) the Confederate Flag was lifted and became the eighth flag to fly over Amelia Island. At the end of the Civil war the American flag flew over the island (Pink, 1949).

Fishing has also had a long history in the community. In the 1700s early immigrants soon became net fishermen. These inhabitants fished for mullet, sheepshead, crabs, trout, turtles, drum, oysters and "pogies" (menhaden). Mullet was such a staple for life and commerce that the famous cry "mullet on the beach" would stop daily business and other activities as everyone rushed to the beach to harvest passing schools of mullet (Goode, 1887).

In the early 1900's, the most prominent industries in the Fernandina Beach area were agriculture, forestry, fishing, and tourism. Although all industries were of great importance, shrimp fishing was the most important. Sallecito Salvador developed the modern commercial shrimping industry in Amelia Island in 1902. Sallecito was a Sicilian immigrant living in Fernandina Beach who utilized a small diesel to pull a shrimp seine net across the ocean floor in deeper waters (Pink, 1949).

Commercial shrimp fishing received another boost in 1913 when Captain Billy Corkum, a New England fisherman, was searching the Florida peninsula for blue fish and suddenly began harvesting large quantities of shrimp. Shrimp processing and shipment facilities soon were

developed in Fernandina Beach, and shrimp harvesting continues to this day (Fernandina News, 1940).

The fishing heritage of the town has been preserved in the fifty blocks of Old Town Fernandina Beach, which have been designated a National Historic District. Old Town has retained the flavor of a true fishing village. Fernandina's harbor is filled to capacity with commercial and charter fishing boats, shrimp boats and private vessels. Seafood restaurants abound in Old Town, along with saloons, coffee bars, boutiques, bookstores and art galleries. The fishing village theme continues to resonate throughout the community.

Today, however, fisheries are not as economically important as they once were. While commercial shrimp and finfish operations continue, tourism has become one of the dominant industries in the town. Lodging choices on Amelia Island range from rustic to luxurious. The Hampton Inn & Suites, located on the harbor, is designed to reflect the historic ambience of Old Town. Two luxurious resorts are located in Amelia Island, including the Ritz-Carlton Resort and the Amelia Island Plantation. These resorts provide world-class facilities and all the amenities that have made the Island the destination an upscale tourist destination. These two resorts have been an important source of employment providing a combined 1,575 jobs. There are also a number of bed and breakfasts that provide a quaint but affordable experience (Fernandina News, 1940). Until recently fishing was the most important industry within the county. An important source of employment lately has been the arrival of wood pulp mills on the St. Mary's river,. Jefferson Smurfit/CCA Paper Products has provided 757 jobs while Rayonier Chemical Cellulose provided 400 jobs. Local environmentalists have been very concerned about possible water pollution caused by the mills. In addition, the mills have generated a very distinct odor, although locals have described the odor as the smell of money. Overall, the diversity of the industry available in the area, as well as the upscale nature of the tourism, has made it very distinct from other communities profiled in this study. The next section explores some demographics features of Fernandina Beach.

5.5.2 Census Demographics

5.5.2.1 Age Distribution

Nassau County has experienced rapid growth, from a population of 20,626 in 1970 to 57,663 in 2000. Census figures show the populations of both Nassau County and Fernandina are aging. In 1970 49.54% of Nassau County and 50.17% of Fernandina was under the age of 24 (See Table 5.5.1). In 1990, only 32.23% of Nassau County and 27.20% of Fernandina were under the age of 24. Additionally, in 1970 7.10% of the population of Nassau County and 12.30% of Fernandina were age 65 or over. In 2000, the proportion of population aged 65 or over increased to 12.60% in Nassau County and to 18.02% in Fernandina.

Table 5.5.1. Census Demographic Information for Nassau County and Fernandina.

Age Distribution	Location	1970	%	1980	%	1990	%	2000	%
Persons Age 0-24	Nassau County	10,218	49.54%	14,614	44.43%	15,910	36.21%	18,584	32.23%
Persons Age 0-24	Fernandina	3,128	50.17%	2,794	44.00%	2,830	33.95%	2,869	27.20%
Persons Age 25-64	Nassau County	8,943	43.36%	15,768	47.94%	23,548	53.59%	31,812	55.17%
Persons Age 25-64	Fernandina	2,340	37.53%	2,678	42.17%	4,627	55.51%	5,779	54.78%
Persons Age 65+	Nassau County	1,465	7.10%	2,512	7.64%	4,483	10.20%	7,267	12.60%
Persons Age 65+	Fernandina	767	12.30%	878	13.83%	878	10.53%	1,901	18.02%

5.5.2.2 Housing Units Information

The growth of housing in Nassau County was much faster than Fernandina Beach with an increase from 6,785 housing units in 1970 to 18,726 in the year 1990 (See Table 5.5.2). Fernandina Beach grew from 3,129 units in 1980 to 4,447 in 1990. In the five-year period before the 1980 Census, Nassau County added 2,513 housing units and Fernandina added 341 units. In the five-year period before the 1990 Census, the 1980 figure nearly doubled, with Nassau County adding 4,572 units and Fernandina adding 759 new units.

Table 5.5.2. Housing Units for Nassau County and Fernandina.

	Location	1970	%	1980	%	1990	%
Total Household Units	Nassau County	6,785		13,009		18,726	
Total Household Units	Fernandina			3,129		4,477	
Units Built 0-5 Year	Nassau County			2,513	19.32%	4,572	24.42%
Units Built 0-5 Year	Fernandina			341	10.90%	759	16.95%
Units Built 6-10 Year	Nassau County			4,004	30.78%	2,932	15.66%
Units Built 6-10 Year	Fernandina			611	19.53%	619	13.83%

5.5.2.3 Racial Distribution

There was a decrease in the racial diversity in both Nassau County and Fernandina Beach (see Table 5.5.3). There was an increase of the proportion of white people from 78.62% (1970) to 89.01% (2000) in Nassau County and from 69.29% (1970) to 79.95% (2000) in Fernandina Beach. There was a decrease in the proportion of the African American population in Nassau County from 21.22% in 1970 to 7.89% in 2000. There was also a decrease in African-Americans in Fernandina Beach over the same time period from 30.71% to 16.36%. The Latino population remained relatively constant at approximately 1.5% of the population for both Nassau County and Fernandina Beach for the same time period.

5.5.2.4 Educational Attainment

The Fernandina Beach population had a much higher educational level than Nassau County in 1990: 32.38% had a high school diploma and 23.75% had a college degree. In Nassau County, for 1990, 38.65% had a high school diploma, but only 12.58% had earned a college degree.

5.5.2.5 Industry

The employment statistics suggest stable employment from manufacturing, and an increase in the service economy. Agriculture, fishing, and mining, decreased in both Nassau County (6.73% in 1970 to 2.88% in 1990) as well as Fernandina Beach (2.95% in 1970 to 1.66% in 1990; see Table 5.5.4). Much of the employment in fishing was based outside of Fernandina Beach (according to the key informant interviews). The overall development of the waterfront excluded the use of much of waterfront for docking and many shrimpers had actually moved their operations south of Fernandina Beach (according to the key informant interviews). The service industry expanded in both Nassau County (19.26% in 1970 to 25.45% in 1990) as well as Fernandina Beach (26.50% in 1970 to 32.56% in 1990). The other major source of employment was wholesale transportation and construction for Fernandina Beach and Nassau County in 1990.

Table 5.5.3. Racial Distribution and Educational Attainment for Nassau County and Fernandina.

Racial Distribution	Location	1970	%	1980	%	1990	%	2000	%
White Persons	Nassau County	16,223	78.65%	28,152	85.58%	39,123	89.04	51,323	89.01
White Persons	Fernandina	4,819	69.29%	5,158	71.40%	6,739	76.89	8,434	79.95
African American	Nassau County	4,377	21.22%	4,571	13.90%	4,511	10.27	4,551	7.89
African American	Fernandina	2,136	30.71%	2,054	28.43%	1,975	22.53	1,726	16.36
Latino	Nassau County	263	1.28%	595	1.81%	343	0.78	873	1.51
Latino	Fernandina			9	1.34%	2	.30%	12	1.53
Educational Attainment	Location	1970	%	1980	%	1990	%	2000	%
Age of 25+ w/ 0-8 Years of Education	Nassau County	4,063	34.93%	4,155	21.31%	3,027	10.91%		
Age of 25+ w/ 0-8 Years of Education	Fernandina	1,228	29.01%	796	17.40%	556	9.63%		
Age of 25+ w/ 9-11 Years of Education	Nassau County	2,339	20.11%	3,499	17.94%	5,051	18.20%		
Age of 25+ w/ 9-11 Years of Education	Fernandina	767	18.12%	625	13.66%	754	13.06%		
Age of 25+ w/ HS diploma	Nassau County	2,822	24.26%	6,886	35.31%	10,726	38.65%		
Age of 25+ w/ HS diploma	Fernandina	1,159	27.38%	1,493	32.64%	1,869	32.38%		
Age of 25+ w/ 13-15 Years of Education	Nassau County	675	5.80%	2,075	10.64%	4,361	15.71%		
Age of 25+ w/ 13-15 Years of Education	Fernandina	351	8.29%	726	15.87%	1,371	23.75%		
Age of 25+ w/ College Degree	Nassau County	509	4.38%	1,665	8.54%	3,492	12.58%		
Age of 25+ w/ College Degree	Fernandina	351	8.29%	726	15.87%	1,371	23.75%		
Drop outs	Nassau County	418	3.59%	359	1.84%	360	1.30%		
Drop outs	Fernandina	127	3.00%	74	1.62%	67	1.16%		
Not in School	Nassau County	806	6.93%	863	4.43%	734	2.64%		
Not in School	Fernandina	300	7.09%	153	3.34%	84	1.46%		

Table 5.5.4. Industries in Nassau County and Fernandina.

Industry	Location	1970	%	1980	%	1990	%
Agriculture, Fishing, and Mining	Nassau County	501	6.73%	462	3.70%	606	2.88%
Agriculture, Fishing, and Mining	Fernandina	79	2.95%	90	3.42%	71	1.66%
Construction	Nassau County	697	9.36%	1,099	8.79%	2,135	10.15%
Construction	Fernandina	169	6.32%	58	2.20%	305	7.15%
Business Services	Nassau County	163	2.19%	426	3.41%	860	4.09%
Business Services	Fernandina	60	2.24%	68	2.58%	156	3.66%
Communication/ Utilities	Nassau County	148	1.99%	328	2.62%	341	1.62%
Communication/ Utilities	Fernandina	63	2.36%	73	2.77%	59	1.38%
Manufacturing	Nassau County	2,369	31.82%	3,398	27.18%	3,543	16.84%
Manufacturing	Fernandina	921	34.43%	769	29.23%	686	16.08%
Durable Manufacturing	Nassau County	410	5.51%	1,123	8.98%	1,421	6.75%
Durable Manufacturing	Fernandina	74	2.77%	199	7.56%	220	5.16%
F.I.R.E.	Nassau County	180	2.42%	676	5.41%	1,099	5.22%
F.I.R.E.	Fernandina	106	3.96%	186	7.07%	268	6.28%
Services	Nassau County	1,434	19.26%	1,731	13.84%	5,354	25.45%
Services	Fernandina	709	26.50%	556	21.13%	1,389	32.56%
Wholesale/ Retail Transportation	Nassau County	1,284	17.24%	2,377	19.01%	4,285	20.37%
Wholesale/ Retail Transportation	Fernandina	448	16.75%	537	20.41%	916	21.47%
Transportation	Nassau County	260	3.49%	883	7.06%	1,393	6.62%
Transportation	Fernandina	46	1.72%	95	3.61%	196	4.59%

5.5.2.6 Average Salary

The average wage rose from \$7,850 and \$8,499 per year in 1970 to \$34,869 and \$35,381 in 1990 for Nassau County and Fernandina Beach respectively. The next section will provide an economic profile of the community of Fernandina Beach.

5.5.3 General and Fishing Employment for 1994 and 1996

This section presents an economic profile of the community of Fernandina Beach. The percentage of employment provided by fishing was compared to other occupational sectors as an indicator of economic fishing dependency. The distribution of the fishing occupations was presented to understand which forms of the fishing economy were prevalent. These figures are important because they highlight fishing before and after the constitutional ban on entanglement nets for commercial fishing and this data complements the data from the census. This section utilizes the aggregated zipcodes that represent the community of Fernandina. Data were obtained from the Zipcode Business Patterns from the U.S. Department of Commerce.

The key sector for employment was the service industry, which in 1994 provided 37.30% of local employment (see Table 5.5.5). The second largest employer was the retail industry, which provided 23.72% and third largest employer was manufacturing with 19.49% of the local employment. Fishing played a small role, providing only .4% of the employment in 1994.

The figures for 1996 were almost equal with the majority of the employment coming from the service industry (37.40%), retail industry (23.89%), and manufacturing (20.29%, see

Table 5.5.5). Again, fishing played a small role, providing only .43% of the employment in 1996. These figures confirmed the information from the Census indicating that tourism and manufacturing were the dominant industries.

Table 5.5.5. Employment by Sector within Fernandina in 1994 and 1996.

Employment in 1994	Number of Employees	%
Retail	2,448	23.72%
Manufacturing	2,011	19.49%
Agriculture	429	4.16%
Construction	637	6.17%
Finance	425	4.12%
Transportation	356	3.45%
Mining	0	0.00%
Wholesale Trade	124	1.20%
Fishing	41	0.40%
Service	3,849	37.30%
Employment in 1996	Number of Employees	%
Retail	2,459	23.89%
Manufacturing	2,089	20.29%
Agriculture	475	4.61%
Construction	551	5.35%
Finance	419	4.07%
Transportation	252	2.45%
Mining	0	0.00%
Wholesale Trade	155	1.51%
Fishing	44	0.43%
Service	3,850	37.40%

5.5.3.1 Fishing Employment for 1994 and 1996

Table 5.5.6 provided the percentage of employment provided by the different occupations for fishing employment in Fernandina Beach. The majority of the employment in the fishing sector for 1994 came from marinas (78.05%) and fish and seafood (21.95). In 1996 most of the employment came from marinas (43.18%) and fish and seafood (36.36%). Fishing, hunting, and trapping increased to 20.45%. However, it is important to note that the number of employees involved in fishing in either time period is very low.

The next section presents results from the Fernandina key informant interviews, which included community leaders (mayor, council members, etc.), businesses (tourism, fishing, industry), as well as commercial and recreational fishermen. Topics included in the interviews were: commercial and recreational fishing employment, economic and cultural dependency upon fishing and community indicators, as well as milestones in the community's history. These

interviews were conducted to validate the data from the secondary sources and examine the perspectives of the key informants on past, present, and future economic and social trends.

Table 5.5.6. Fishing Employment by Sector in Fernandina in 1994 and 1996.

Employment in 1994	Number of Employees	%
Fish and Seafoods	9	21.95%
Marinas	32	78.05%
Fresh or Frozen Prepared Fish	0	0.00%
Canned and Cured Fish and Seafoods	0	0.00%
Fishing, Hunting, and Trapping	0	0.00%
Employment in 1996	Number of Employees	%
Fish and Seafoods	16	36.36%
Marinas	19	43.18%
Fresh or Frozen Prepared Fish	0	0.00%
Canned and Cured Fish and Seafoods	0	0.00%
Fishing, Hunting, and Trapping	9	20.45%

5.5.4 Key Informant Interviews

Key informant stated that tourism and residential development have had a large impact on Fernandina Beach. When key informants were asked to describe the significant changes that had occurred in their area, most began by discussing the development of Amelia Island Plantation and the Ritz-Carlton Resort. “These two changes,” a participant said, “really put us on the map.” Amelia Island Plantation and the Ritz-Carlton are luxury residential and tourist establishments. The town of Fernandina Beach has evolved in recent years to serve a wealthy clientele. Many key informants commented that the town is unrecognizable from as little time as fifteen years ago. Then, there were only two or three restaurants versus the more than 20 that exist today.

The key informants described the importance of tourism and the impacts it has had on the commercial fishing industry. Many participants described a shift from commercial fishing to recreational fishing. Tourists who vacation on Fernandina Beach come to fish, and are able to pay generously to have charter guides take them on in-shore and off-shore fishing excursions. As a result, older and younger fishers perceive that charter fishing is a more lucrative enterprise and have shifted their operations to serve this demand.

The rise in tourism has been accompanied by an increase in moorings for yachts and other private vessels. As these boats demand more dockage, the space for commercial fishing boats has diminished and the cost of commercial dockage has increased. One individual told an interesting story that illustrates the shift of importance from commercial to recreational fishing. Apparently, every year during the town’s Shrimp Festival, shrimp boat captains decorate their boats and parade in front of the harbor. Until several years ago, however, the boats would race up and down the St. Mary’s River. The race was stopped because the wake produced by the these vessels caused private boats to rock at their moorings chipping paint as they knocked into one another and the docks.

Finally, while tourism has in some ways led to the decline of commercial fishing, it has simultaneously contributed to its preservation. Many participants explained that tourists come to Amelia Island and Fernandina Beach “to eat, breathe, and live” the life of a fishing community. While there is little remaining of the fishing industry that once dominated the local economy, the vestiges that do remain are an important component of the tourist experience.

Many study participants commented that what has ‘saved’ Fernandina Beach in the face of the decline of the commercial fishing industry is the diversity of its economy. By pointing to the importance of the pulp mills, which employ nearly 2000 residents, the tourism industry, which employs nearly as many, and the commercial and recreational fishing industries that service tourists and tourist facilities (e.g., bait shops and restaurants), they felt that the increasing regulation of fisheries has had a less severe impact on their community because other sources of income are present for local people

Thus far, this research has presented a portrait of Fernandina Beach. Fernandina Beach was at one time fishing dependent, and it was the birthplace of the modern shrimp industry in Florida. However, data thus far has presented an economy that is diversified. The community has developed a strong tourist economy that celebrates the historical fishing origins of the community. Amelia Island has thirteen miles of white sand beaches crowned by 40’ high sand dunes and has multiple fishing tournaments that have helped to attract tourist. Further employment in the paper mills has helped to maintain a strong local economy and complemented the boom in the local tourist industry. The final section the community survey was prepared in order to quantify many of the key concepts of this research project. This section has been divided four sections: a) demographics, b) dependency, c) community, and d) the Net-Ban.

5.5.4.1 Telephone Survey Demographics

A random sample of 227 Fernandina Beach residents were surveyed. The majority of the respondents were male (60.79%). Some 64.60% of the respondents were married, 16.37% were single, 12.83% were divorced, and 6.19% were widowed (see Table 5.5.7). Educational attainment for survey respondents was as follows: 15.86% percent had earned a graduate or professional degree, 25.99% were college graduates, 27.75% had some college education, .44% had vocational and technical degrees, and 25.99% were high school graduates.

Table 5.5.7. Demographics for Fernandina Beach.

Gender		
	Frequency	%
Male	138	60.79%
Female	89	39.21%
Marital Status		
Single	37	16.37%
Married	146	64.60%
Divorced	29	12.83%
Widow	14	6.19%
Education		
8 th grade or less	2	0.88%
Some high school	7	3.08%
High school graduate	59	25.99%
Technical/Vocational	1	0.44%
Some college	63	27.75%
College graduate	59	25.99%
Graduate school/ Professional	36	15.86%
Race		
African American	11	4.89%
White	211	93.78%
Asian	3	1.33%
Other	11	4.89%
Hispanic Origin		
No	212	94.64%
Yes	12	5.36%
Living Situation		
Own home	192	84.58%
Rent home	25	11.01%
Live with parents	6	2.64%
Other	4	1.76%
Age (M=50.03, SD=18.25)		
0-24	17	7.7%
25-64	150	67.6%
64+	55	24.8%
Years in the Community		
	<u>M</u>	<u>SD</u>
Years	17.93	17.90

Over 93% of the sample was white, 4.89% was African-American, and 5.36% was Latino (see Table 5.5.7). Some 64.32% of the population was between the ages of 25-64. The mean length of residency was 17.93 years and the mean age was 50.03 years. Over 84% of the sample owned their homes.

The majority (52.86%) of the respondents were working full time (see Table 5.5.8). A large portion of respondents were not employed, retired, or disabled (38.33%). Only 14.6% of

the population of the town sought employment outside of the town. Overall, the town was seen as being economically stable. The next section explores the issue of dependency.

5.5.4.2 Dependency

This section of the survey examines issues of commercial and recreational fishing dependency, the importance of fishing to the local culture, tourist dependency, and the linkage between tourism and fishing. The survey data confirmed the data from the census and from the key informant interviews and showed that community was primarily dependent on both tourism and the paper mills (manufacturing). Some 27.43% were employed in manufacturing, 15.04% in the retail industry, 6.64% as professionals, and 3.98% in the service industry. Only 4.42% of the sample respondents were employed in fishing.

Table 5.5.8. Employment Demographics for Fernandina Beach.

Employment Status		
Full time	120	52.86
Part time	20	8.81
Not employed/ retired/ disabled	87	38.33
Place of Work		
Outside	33	14.60
Inside	106	46.90
Retired/ Don't Work	87	38.50
Occupation		
Not Employed	87	38.50
Agriculture	2	0.88
Clerical	7	3.10
Fishing	10	4.42
Manufacturing	62	27.43
Professional	15	6.64
Retail	34	15.04
Services	9	3.98
Other	87	38.50

Respondents were asked what percentage of community members were involved in commercial fishing. This number was very low (19.24%) when compared to the other communities, but still much higher than the actual figure (see Table 5.5.9). The percentage involved in recreational fishing was higher at 37.64%. Tourism was perceived as being the most important economic activity (78.70%), followed by commercial fishing (17.37%), and then recreational fishing (6.51%) when examining their importance to the local economy (see Table 5.5.10). This data clearly complemented the key informant interviews and census data showing the importance of tourism. The data also supported data on the economic value of commercial fishing based on the key informant interviews. Shrimping did not provide a great deal of employment for the town but was still a major source of revenue for the individual involved. The image of commercial fishing was also crucial for the marketing of Fernandina Beach's tourist industry.

Table 5.5.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Fernandina Beach According to Respondents.

Question	Percent
Percentage of Residents involved in Commercial Fishing Industry	19.24%
Percentage of Residents involved in Recreational Fishing Industry	37.64%

Table 5.5.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Fernandina Beach.

	Least	%	Next	%	Most	%	M	SD
Rank of Commercial Fishing	88	41.31%	88	41.31%	37	17.37%	1.76	0.73
Rank of Recreational	102	47.44%	99	46.05%	14	6.51%	1.59	0.61
Rank of Tourism	19	8.80%	27	12.50%	170	78.70%	2.70	0.62

Table 5.5.11 examined the economic and social importance of fishing to the local community. Over 83% of the people stated that the community was tourist dependent. Only 26.61% stated that the local economy was commercial fishing dependent. Nonetheless, the results reinforced the importance of commercial fishing to the local community, 89.73% replied that the commercial fishing was important to the local culture, 70.51% stated commercial fishing was attractive to the local landscape, 54.93% stated that commercial fishing is an important draw for tourists. These figures clearly indicate the importance of fishing as a part of the heritage and image of the town – but less so as an economic activity.

Many respondents (65.50%) felt that charter fishing made a contribution to the economy and 49.52% of the respondents stated the economy was dependent on recreational fishing (see Table 5.5.11). These figures showed that recreational and charter fishing has increased in its economic importance. According to many of the key informant interviews many of the people that came to the island were attracted by the beach and for fishing. Many of the respondents (59.09%) felt that fishing regulations had an impact on the ability of commercial and recreational fishers to make a living. Though the community was not found to be dependent on fishing, fishing was still an important part of the heritage of Fernandina Beach and a draw for tourists.

Table 5.5.11. The Importance of Fishing to the Local Economy of Fernandina Beach.

	No	%	Yes	%	M	SD
Economy is Commercially Fishing Dependent	160	73.39%	58	26.61%	0.27	0.44
Contribution of Charter Fishing to the Local Economy	69	34.50%	131	65.50%	0.66	0.48
Impact of Fishing Regulations on the Ability to make a Living	63	40.91%	91	59.09%	0.59	0.49
Importance of Fishing to the Local Culture	23	10.27%	201	89.73%	0.90	0.30
Economy is Tourist Dependent	36	16.07%	188	83.93%	0.84	0.37
Economy is Dependent on Recreationally Fishing	105	50.48%	103	49.52%	0.50	0.50
Commercial Fishing is an Important Draw for Tourist	96	45.07%	117	54.93%	0.55	0.50
Commercial Fishing is Attractive to the Local Landscape	64	29.49%	153	70.51%	0.71	0.46

5.5.4.3 Community

This section explores the concept of community by focusing on three important components that comprise community: locality, local society, and community action (Wilkinson, 1991). Over 97% reported there were community celebrations and 89.42% indicated there was a major event in the community's past (see Table 5.5.12). These indicators suggest a shared community history as well as activities that are identified by the vast majority of the respondents. Additionally, 90.87% of the respondents stated there was a group to encourage community growth while 86.34% stated there was a citizen's organization to improve the community. A large majority (81.18%) of the respondents that indicated that there was a building for community meetings. These findings are consistent indicators of community action (see Table 5.5.12). These indicators also revealed that there was purposive community action to try and improve the community.

The existence of a building for meetings, community monument, tourist center, a sign to mark the community border, central community focal point, and a community owned cemetery were used as community indicators for both the locality and local society (see Table 5.5.13) Some 84.65% identified a building for community meetings, 92.38% identified a tourist center, 84.62% indicated that there was a sign to mark the community border, 93.33% indicated that there was a central community focal point, and over 66% said the community owned cemetery. Another 65.80% stated there was a community band while 38.07% indicated there was a community monument.

Table 5.5.12. The Existence of Community Indicators in Fernandina Beach.

	No	%	Yes	%	M	SD
Existence of a Community Monument	122	61.93%	75	38.07%	0.38	0.49
Existence of a Tourist Center	17	7.62%	206	92.38%	0.92	0.27
Sign to Mark the Community Border	32	15.38%	176	84.62%	0.85	0.36
Central Community Focal Point	15	6.67%	210	93.33%	0.93	0.25
Periodic Community Celebration	6	2.64%	221	97.36%	0.97	0.16
Community Owned Cemetery	22	9.69%	151	66.52%	0.87	0.33
Community Band	66	34.20%	127	65.80%	0.66	0.48
Community Wide Project Over the Last Five Years	15	7.94%	174	92.06%	0.92	0.27
A Building for Community Meetings	33	15.35%	182	84.65%	0.85	0.36
Citizens Organization to Improve the Community	9	3.96%	196	86.34%	0.96	0.21
Group to Encourage Community Growth	19	9.13%	189	90.87%	0.91	0.29
Major Event in the Community's Past	22	10.58%	186	89.42%	0.89	0.31

Table 5.5.13 examines the capability of local residents to meet their daily needs inside the community. The majority of the residents could satisfy their needs within a ten-mile radius. The only activity that was conducted outside of the 10-mile radius by the majority was to buy clothes (54.38%).

The majority of the respondents felt very at home in the community (85.84%). A combined 73.78% responded they were somewhat or very involved in the community (see Table 5.5.14). This suggests that the majority of respondents perceive community in terms of their sense of belonging and involvement.

The survey also examined community problems as perceived by the respondents. The response categories for the community issues were coded: 1 = not a problem, 2 = somewhat a problem, and 3 = serious problem (Table 5.5.15). The major issues in the community that were identified by the respondents as serious problems were increasing land value 31.22% and increasing property taxes 36.41%. Additionally, 25.99% identified traffic congestion, 24.78% identified increasing newcomers, and 28.57% identified increasing residential development as serious problems. Overall the findings showed that people were somewhat concerned about the impact of the increasing population and land values.

Table 5.5.13. The Distance Traveled In Order To Satisfy Needs in Fernandina Beach.

Distance/ Miles to Travel	<1	%	1-3	%	4-6	%	7-10	%	10+	%
Distance to Buy Clothes	13	5.99%	33	15.21%	32	14.75%	21	9.68%	118	54.38%
Distance to Groceries	21	9.33%	105	46.67%	62	27.56%	26	11.56%	11	4.89%
Distance to Medical	26	11.76%	66	29.86%	54	24.43%	29	13.12%	46	20.81%
Distance to Church	37	17.70%	77	36.84%	50	23.92%	25	11.96%	20	9.57%
Distance to Repair Car	35	16.28%	67	31.16%	54	25.12%	25	11.63%	34	15.81%
Distance to Bank	27	12.44%	93	42.86%	53	24.42%	24	11.06%	20	9.22%

Table 5.5.14. Responses Toward Feeling At Home and Being Involved Fernandina Beach.

	Not at All	%	Somewhat	%	Very	%	M	SD
Feel at Home	9	3.98%	23	10.18%	194	85.84%	2.82	0.48
Involved in Community	59	26.22%	122	54.22%	44	19.56%	1.93	0.67

Table 5.5.15. Community Problems in Fernandina Beach.

	Not	%	Somewhat	%	Serious	%	M	SD
Lack of Economic Growth	174	77.68%	39	17.41%	11	4.91%	1.27	0.55
Increasing Residential Development	81	36.16%	79	35.27%	64	28.57%	1.92	0.80
Loss of Commercial Dockage	124	64.92%	35	18.32%	32	16.75%	1.52	0.77
Increasing Land Value is a Problem	100	45.25%	52	23.53%	69	31.22%	1.86	0.87
Increasing Property Taxes	74	34.10%	64	29.49%	79	36.41%	2.02	0.84
Unemployment	164	77.00%	37	17.37%	12	5.63%	1.29	0.56
Access to Health Care	158	71.82%	42	19.09%	20	9.09%	1.37	0.65
Regulation of Fisheries	75	53.57%	44	31.43%	21	15.00%	1.61	0.74
Pollution of the Marine Environment	71	34.63%	84	40.98%	50	24.39%	1.90	0.76
Traffic Congestion	82	36.12%	86	37.89%	59	25.99%	1.90	0.78
Increasing Newcomers	84	37.17%	86	38.05%	56	24.78%	1.88	0.78
Growth of Tourism	131	58.74%	59	26.46%	33	14.80%	1.56	0.74
Access to Quality Education	121	53.30%	50	22.03%	38	16.74%	1.60	0.78

Table 5.5.16. Important Factors for a Person to be Influential in Fernandina Beach.

	Not at All	%	Somewhat	%	Very	%	M	SD
Length of Residence	62	28.05%	85	38.46%	74	33.48%	2.05	0.78
Family Background	80	36.04%	84	37.84%	58	26.13%	1.90	0.78
Occupation	92	41.44%	93	41.89%	37	16.67%	1.75	0.72
Land Ownership	71	31.98%	88	39.64%	63	28.38%	1.96	0.78
Wealth	93	42.08%	85	38.46%	43	19.46%	1.77	0.75
Personal	36	16.14%	85	38.12%	102	45.74%	2.30	0.73
Community Participation	23	10.27%	92	41.07%	109	48.66%	2.38	0.67
Who You Know	41	18.39%	81	36.32%	101	45.29%	2.27	0.75
Political Affiliation	103	46.82%	79	35.91%	38	17.27%	1.70	0.75
Holding Official Office	80	36.36%	86	39.09%	54	24.55%	1.88	0.77
Political Opinions	73	33.18%	106	48.18%	41	18.64%	1.85	0.71
Age	134	59.29%	75	33.19%	17	7.52%	1.48	0.63
Gender	165	73.33%	53	23.56%	7	3.11%	1.30	0.52
Level of Education	66	29.20%	116	51.33%	44	19.47%	1.90	0.69
Religious Affiliation	153	68.92%	49	22.07%	20	9.01%	1.40	0.65

Table 5.5.16 examined the key factors that respondents felt made an individual influential in Fernandina Beach and were coded 1 = not at all factor, 2 = somewhat a factor, and 3 = very much a factor. The attributes identified as being most influential were personal characteristics (45.74% very much a factor), community participation (48.66% very much a factor), and whom you know (45.29% very much a factor). Other important attributes were length of residence (33.48% very much a factor), land ownership (28.38% very much a factor) and holding official

office (24.55% very much a factor). These results imply that personalities and community participation were important influences in the individual's status in the community.

Economic diversification appears to have assisted the community in its long-term development by offering numerous opportunities for employment, in contrast to being dominated by just one economic sector (i.e. fishing or tourism). The town continues to embrace its heritage as a "fishing community" and utilizes this imagery to promote tourism. Recreational fishing was also seen as an important up and coming industry. Recreational fishing was also an important contributor to the community's economy as a tourist attraction.

5.5.4.4 Net Ban

Table 5.5.17 examined the knowledge of the 1994 net ban. Over 56% of the respondents had knowledge of the net ban. These respondents also indicated that they either agreed (34.85%) or strongly agreed (26.52%) that the net ban had a negative impact on the community of Fernandina Beach (see Table 5.5.18).

Table 5.5.17. The Mean Score of Community Respondents On the Knowledge of the 1994 Net Ban In the Community of Fernandina Beach.

	No	%	Yes	%	M	SD
Knowledge of the Net Ban	98	43.17%	129	56.83%	0.57	0.50

Table 5.5.18. The Negative Impact of the 1994 Net Ban in Fernandina Beach.

	Strongly Disagree	%	Disagree	%	Agree	%	Strongly Agree	%	M	SD
Negative Impact of the 1994 Net Ban	21	15.91%	30	22.73%	46	34.85%	35	26.52%	2.72	1.03

5.6 Oak Hill

5.6.1 History

Oak Hill is considered the most southern town of Volusia County, located high on the banks of the Indian River. It presently comprises 10.5 square miles with a population of 1,200 and is incorporated. The original name for the town was “Live Oak Hill” partially because ships once carried large quantities of live oak timber from the area. Alternatively, local folklore suggests the famous live oak tree on Snyder Hill blew down during a hurricane sometime before 1908- hence, “Live Oak Hill” became simply “Oak Hill.”

George Murray, E.A. Marsh, A.A Berry, and W.C. Howse were the first to secure their land grants in the area in the year of 1804. Floridians and natives of New England and New York settled Oak Hill shortly after the Civil War in 1865 (Deweese, 1894). A man by the name of Mitchell was another of the original founders who established an orange grove in 1860, while other inhabitants developed a salt works. Further growth lead to the creation of a post office, which opened (in 1876), as well as several stores and hotels.

The citrus industry began to develop in the late 1800’s. In 1887, there were about 220 acres of citrus groves in the Oak Hill area. The big citrus growers were the Edmund Day Co. (called the E. Day Groves), and H.G. Putnam. It was the Florida freezes of 1886-1983 that would be the death of the local orange industry. The first freeze was on January 4, 1886, when temperatures plummeted to 18 degrees. Fish and even turtles froze on that occasion. The Owen and Little Company was recorded as providing the first forms of economic activity in Oak Hill in the early 1900’s. The company store supplied lumber and other resources to the residents of Oak Hill. Their turpentine still and sawmill were major sources of employment for most residents.

In 1908, shortly after the Owen and Little Company came to town, the fishing industry began in earnest. With the onset of the 1960’s, the commercial fishing market became depressed and the citrus industry had almost vanished. Many Oak Hill residents went to work at the Space Center, known as “The Cape.” Patrick Air Force at Banana River was another alternative source of employment for Oak Hill residents.

A major turning point for the community of Oak Hill was the constitutional amendment prohibiting the use of entangling nets in all Florida waters, as well as other nets larger than 500 square feet of mesh area in near shore and inshore waters. The net ban all but destroyed the local fishing industry with only a few surviving cast-netters.

There have been numerous efforts to revitalize the community and preserve the local fishing heritage of Oak Hill. In 1997, the City of Oak Hill was designated as a Florida Enterprise Zone. Through this program, a variety of tax breaks can be offered to businesses and entrepreneurs, including sales tax credits for hiring residents of the area. Through the Waterfronts Florida Partnership, the City of Oak Hill looks to compliment this program by redeveloping the waterfront in a manner, which is consistent with the character of the area while attracting new water-dependent industries such as eco-tourism. Some have also tried to limit the

development of infrastructure that would be able to support industries such as durable manufacturing as well as extensive housing.

The community has been divided by the fight between those that want to maintain the old community and those that want to promote the community as a retirement destination -- including the construction of a golf course. The Oak Hill area has experienced a transition from commercial net fishing and shell fishing to aquaculture and water sports. Marine products and boat building have grown. The community is currently home of aquaculture, clam farms, land-based clam nursery, eco-tourism, recreational, recreational golf, Viking Pools - fiberglass swimming pools, and Boston Whaler Fiberglass Boats. These industries have not provided enough employment to support the small community. The community has become a bedroom community for towns located to the north and to the south. The future of the community is not clear because of the conflicting visions of what the future should hold. The next section examines key demographic indicators of the citizens of Oak Hill.

5.6.2 Census Demographics

This section examines the demographic trends in the City of Oak Hill and Volusia County. The results are based on the decennial census.

5.6.2.1 Age Distribution

The population of people aged 65 or over has increased from 11.92% of the population in 1980 to 20.97% in the year 2000 (see Table 5.6.1). The population of people aged 65 or over in Volusia County has remained relatively constant around 22% of the total population from 1970 to 2000. There was a decrease in the amount of youth from the age 0-24 from 42.69% (1980) to 29.03% (2000) in Oak Hill and from 36.34% (1970) to 28.45% (2000) in Volusia County. The population between the ages 25-64 in both Oak Hill and Volusia County increased between 5% and 8% between 1970 and 2000.

Table 5.6.1. Census Demographic Information for Volusia County and Oak Hill.

Age Distribution	Location	1970	%	1980	%	1990	%	2000	%
Persons Age 0-24	Volusia County	61,589	36.34%	84,948	32.83%	107,449	28.98%	126,130	28.45%
Persons Age 0-24	Oak Hill	0	0	394	42.69%	321	33.26%	400	29.03%
Persons Age 25-64	Volusia County	70,076	41.35%	116,128	44.88%	178,885	48.25%	219,402	49.49%
Persons Age 25-64	Oak Hill	0	0	419	45.40%	464	48.08%	689	50.00%
Persons Age 65+	Volusia County	37,822	22.32%	57,686	22.29%	84,378	22.76%	97,811	22.06%
Persons Age 65+	Oak Hill	0	0	110	11.92%	180	18.65%	289	20.97%

5.6.2.2 Housing Units Information

There has been a moderate increase in the total number of household units in Oak Hill (350 in 1980 and 411 in 1990) and a large increase of housing units in Volusia County (70,605 in 1970 and 180,972 in 1990; see Table 5.6.2). Housing units built in the previous five years for Oak Hill nearly tripled from 1980 to 1990, but the number of units is still relatively small, 22 units to 62 units. For the five-year period in 1990, Volusia added over 38,000 units.

5.6.2.3 Racial Distribution

There percentage of the total population that was white was 84.31% (2000) in Volusia County and 82.71% (2000) in Oak Hill (see Table 5.6.3). There was a decrease of the African American population in Oak Hill (from 26.08% in 1980 to 16.63% in 2000) and Volusia County (from 14.09% in 1970 to 9.37% in 2000). The Latino population remained constant at slightly below 1% of the population in Oak Hill and 6.34% of the population in Volusia County in 2000.

5.6.2.4 Educational Attainment

On the whole Volusia County was more educated than Oak Hill (see Table 5.6.3). In Volusia County 33.38% had a high school diploma, 15.46% had a college degree. In Oak Hill 29.89% had a high school diploma and only 5.16% had earned college degree.

Table 5.6.2. Housing Units for Volusia County and Oak Hill.

	Location	1970	%	1980	%	1990	%
Total Household Units	Volusia County	70,605		12,1532		180,972	
Total Household Units	Oak Hill			350		449	
Units Built 0-5 Year	Volusia County			26,762	22.02%	38,839	21.46%
Units Built 0-5 Year	Oak Hill			22	6.29%	62	13.81%
Units Built 6-10 Year	Volusia County			26,091	21.47%	30,514	16.86%
Units Built 6-10 Year	Oak Hill			32	9.14%	77	17.15%

5.6.2.5 Industry

The proportion of people employed in agriculture, fishing, and mining decreased in Volusia County (from 4.21% in 1970 to 3.35% in 1990) and decreased in Oak Hill (from 19.51% in 1980 to 3.47% in 1990) (see Table 5.6.4). The service industry employed 31.06% of the population in Volusia County and 35.26% in Oak Hill in 1990. Wholesale and retail transportation provided around 23% of the employment for Volusia County and Oak Hill between in 1990. Construction, manufacturing, and finance insurance and real estate provided between 3% and 12% of the employment in both locations 1990.

5.6.2.6 Average Salary

There was an increase the average wage from \$7,271 per year in 1970 to \$29,158 in Volusia County and \$12,419 per year in 1980 to \$24,751 in Oak Hill. The wage gap between Volusia County and Oak Hill may be related to the isolation of Oak Hill and the limited the economic opportunities in the community. According to the key informant interviews Oak Hill has been economically depressed, there has been a small influx of retirees, and a change in the demographics of the community.

Table 5.6.3. Racial Distribution and Educational Attainment for Volusia County and Oak Hill.

Racial Distribution	Location	1970	%	1980	%	1990	%	2000	%
White Persons	Volusia County	145,320	85.39%	227,069	87.32%	328,782	87.23%	387,116	84.30%
White Persons	Oak Hill	0	0.00%	686	73.92%	687	70.61%	1,134	82.71%
African American	Volusia County	23,984	14.09%	28,873	11.10%	33,443	8.87%	43,010	9.37%
African American	Oak Hill	0	0.00%	242	26.08%	270	27.75%	228	16.63%
Latino	Volusia County	887	0.52%	4,105	1.58%	14,668	3.89%	29,111	6.34%
Latino	Oak Hill	0	0.00%	0	0.00%	16	1.64%	9	0.66%
Educational Attainment	Location	1970	%	1980	%	1990	%	2000	%
Age of 25+ w/ 0-8 Years of Education	Volusia County	26,302	22.72%	27,795	15.27%	20,256	8.04%		
Age of 25+ w/ 0-8 Years of Education	Oak Hill	0	0.00%	159	26.11%	89	13.93%		
Age of 25+ w/ 9-11 Years of Education	Volusia County	20,155	17.41%	30,353	16.67%	844,441	17.64%		
Age of 25+ w/ 9-11 Years of Education	Oak Hill	0	0.00%	154	25.29%	182	28.48%		
Age of 25+ w/ HS diploma	Volusia County	35,668	30.82%	63,678	34.98%	85,234	33.83%		
Age of 25+ w/ HS diploma	Oak Hill	0	0.00%	168	27.59%	191	29.89%		
Age of 25+ w/ 13-15 Years of Education	Volusia County	14,225	12.29%	29,456	16.18%	55,900	22.19%		
Age of 25+ w/ 13-15 Years of Education	Oak Hill	0	0.00%	34	5.58%	114	17.84%		
Age of 25+ w/ College Degree	Volusia County	11,584	10.01%	22,532	12.38%	38,946	15.46%		
Age of 25+ w/ College Degree	Oak Hill	0	0.00%	14	2.30%	33	5.16%		
Drop outs	Volusia County	2,423	2.09%	2,733	1.50%	2,538	1.01%		
Drop outs	Oak Hill	0	0.00%	26	4.27%	13	2.03%		
Not in School	Volusia County	5,388	4.66%	5,506	3.02%	4,649	1.85%		
Not in School	Oak Hill	0	0.00%	54	8.87%	17	2.66%		

Table 5.6.4. Industries in Volusia County and Oak Hill.

Industry	Location	1970	%	1980	%	1990	%
Agriculture, Fishing, and Mining	Volusia County	2,511	4.21%	3,407	3.75%	5,606	3.35%
Agriculture, Fishing, and Mining	Oak Hill	0	0.00%	56	19.51%	12	3.47%
Construction	Volusia County	5,013	8.40%	8,800	9.68%	13,254	7.92%
Construction	Oak Hill	0	0.00%	41	14.29%	43	12.43%
Business Services	Volusia County	1,917	3.21%	3,914	4.31%	7,598	4.54%
Business Services	Oak Hill	0	0.00%	11	3.83%	13	3.76%
Communication/ Utilities	Volusia County	2,011	3.37%	2,866	3.15%	4,189	2.50%
Communication/ Utilities	Oak Hill	0	0.00%	4	1.39%	9	2.60%
Manufacturing	Volusia County	6,012	10.07%	10,456	11.50%	16,799	10.03%
Manufacturing	Oak Hill	0	0.00%	26	9.06%	27	7.80%
Durable Manufacturing	Volusia County	4,343	7.28%	7,535	8.29%	12,075	7.21%
Durable Manufacturing	Oak Hill	0	0.00%	19	6.62%	24	6.94%
F.I.R.E.	Volusia County	3,282	5.50%	6,399	7.04%	10,693	6.39%
F.I.R.E.	Oak Hill	0	0.00%	6	2.09%	12	3.47%
Services	Volusia County	19,338	32.40%	19,604	21.57%	52,004	31.06%
Services	Oak Hill	0	0.00%	41	14.29%	122	35.26%
Wholesale/ Retail Transportation	Volusia County	14,001	23.46%	25,274	27.81%	40,067	23.93%
Wholesale/ Retail Transportation	Oak Hill	0	0.00%	61	21.25%	81	23.41%
Transportation	Volusia County	1,248	2.09%	2,632	2.90%	5,128	3.06%
Transportation	Oak Hill	0	0.00%	22	7.67%	3	0.87%

5.6.3 General and Fishing Employment for 1994 and 1996

The next section provides an economic profile of the community of Oak Hill using the aggregated zipcode data. This section compares the percentage of employment provided by fishing as compared to other occupational sectors as an indicator of economic fishing dependency. The data comes from the Department of Commerce's Zipcode Business Patterns. The actual distribution of the fishing occupations was presented to understand which forms of the fishing economy were prevalent in the community. This information allowed the researchers to contrast the prevalent types of fishing dependency with in the community's profiled.

5.6.3.1 Fishing Employment by Sector 1994-1996

Manufacturing generated the majority of the employment in the community (39.11%) in 1994 (see Table 5.6.5). This was followed by retail (28.22%), the service industry (14.36%), and construction (12.38%). The data showed weak employment in fishing 1.49%. The Oak Hill Community economic data was aggregated from the Community Business Patterns 1994 provided by the US Census. In 1996 there was a jump in employment in the retail industry (53.48%) as well as the service industry (27.81). Construction dropped to 8.56% of the local employment. The same number of people remained in fishing at 3 (1.6% of the total employment).

Table 5.6.6 provided the percentage of employment provided by the different occupations for fishing employment in Oak Hill. These figures were based upon the Standard Industrial Classification (SIC) coding system used by the Census Bureau and Bureau of Economic Analysis. All of the employment in the fishing sector for 1994 and 1996 came from fish and seafood.

There were two basic problems with the data utilized in this section. First there were a vast number of people who were not primarily employed in fishing but used fishing to supplement incomes and to subsist. Informants indicated that several good days of fishing would frequently be used to supplement family income. Some people even responded they would call in sick to their job if there were a good catch underway.

Table 5.6.5. Employment by Sector in Oak Hill in 1994 and 1996

Employment in 1994	Number of Employees	%
Retail	57	28.22
Manufacturing	79	39.11
Agriculture	3	1.49
Construction	25	12.38
Finance	0	0.00
Transportation	3	1.49
Mining	0	0.00
Wholesale Trade	3	1.49
Fishing	3	1.49
Service	29	14.36
Employment in 1996	Number of Employees	%
Retail	100	53.48
Manufacturing	1	0.53
Agriculture	6	3.21
Construction	16	8.56
Finance	0	0.00
Transportation	3	1.60
Mining	0	0.00
Wholesale Trade	6	3.21
Fishing	3	1.60
Service	52	27.81

Table 5.6.6. Fishing Employment by Sector in Oak Hill in 1994 and 1996.

Employment in 1994	Number of Employees	%
Fish and Seafoods	3	100.00
Marinas	0	0
Fresh or Frozen Prepared Fish	0	0
Canned and Cured Fish and Seafoods	0	0
Fishing, Hunting, and Trapping	0	0
Employment in 1996	Number of Employees	%
Fish and Seafoods	3	100.00
Marinas	0	0
Fresh or Frozen Prepared Fish	0	0
Canned and Cured Fish and Seafoods	0	0
Fishing, Hunting, and Trapping	0	0

The next section presents results from key informant interview including community leaders (mayor, council members, etc.), businesses (tourism, fishing, industry), as well as commercial and recreational fishermen.

5.6.4 Key Informant Interviews

The respondents to the key informant interviews stated that a fishing community is made up of a few families that are close knit and centered on fishing as a way of life. They suggested that a fishing community included an understanding of how to live with nature, with knowledge passed from one generation to the next. The people of the fishing community were described as “proud, independent, and self-reliant.”

Respondents felt that Oak Hill was a fishing community because there are still a number of people that are involved in fishing, clamming, crabbing, and oyster harvesting. It is also described as a fishing community because it's “heritage comes from fishing.” Other respondents stated; “people may have other jobs but unless they work at the Cape then they are still fishing at least part of the time. When there are mullet out there they call in sick”.

Respondents indicated that the main source of jobs and revenue came from manufacturing, people working at the Cape, and then some fishing. The majority felt that the community used to be fishing dependent but this ended with the implementation of the net ban in 1996. Residents have seen a boom in the recreational fishing industry but they felt that it has done very little for the local economy. They clarified this by stating that very few people that came to fish actually spent money in the community, most arrived with their own bait, gas, and food already on hand.

Key informants described the net ban as a turning point in the history of the community. Several respondents stated; “The net ban has effectively killed the town.” The informants believed that the net ban was motivated by sports fishermen and those people who wanted to import the fish. It was passed out of “ignorance and greed.” Residents reported that there were already catch limits on fishing when the net ban came into effect. Informants reported

consequences of the net ban were depression, drinking, drugs, and more crime. One respondent stated; “My wife says the boat sank, get over it! I have the last fish house, when I close there will not be anything left.”

Sea Grant had attempted to introduce clam aquaculture in response to the loss of jobs and Harbor Branch helped with the training. Respondents stated; “many of the fishermen have not responded to the aquaculture initiative because they feel the need to be out on the water and independent.” The high initial investment costs were also reported as a key factor limiting participation in the aquaculture projects. Some felt that there were people who have made money through aquaculture, but not the majority.

The key informant interviews revealed a running dispute between those that want to change the community and those that want to keep it as it is. Those that want change are promoting development, which includes a park for 1,600 mobile homes and a golf course. Some reported there was a group trying to block the project through a moratorium on the development of sewer and water.

The majority of the key informants saw a future for Oak Hill as a retirement community. Nonetheless, there are a few that feel Oak Hill will hold out and limit the expansion of the community to low-level development and environmentally safe industries. Our research indicates that Oak Hill is economically depressed. The net ban was identified as a key milestone that changed the community. In addition, there is also a conflict between those that have wanted to develop the community and those that have wanted to limit development. Despite the conflict there has been an influx of retirees and a change in the demographics of the community including a change in the family structure, growth in the population, low education levels, increase in construction, and high poverty levels.

5.6.4.1 Telephone Survey Demographics

A random sample telephone survey of 149 Oak Hill residents was conducted to explore local community issues. The analysis begins with a brief discussion of the sample population. The majority of the respondents were male (61.07%). The marital status of the sample was as follows: over 61% were married, 13.51% were single, 12.16% were divorced, and 8.78% were widowed (see Table 5.6.7). The majority of the sample was white (95.97%) followed by African-Americans (2.68%). For educational attainment: 20.27% were college graduates, 32.43% had some college education, .68% had vocational and technical degrees, and 35.14% were high school graduates.

Table 5.6.7. Demographics for Oak Hill.

Gender		
	Frequency	%
Male	91	61.07%
Female	58	38.93%
Marital Status		
Single	20	13.51%
Married	97	65.54%
Divorced	18	12.16%
Widow	13	8.78%
Education		
8th grade or less	1	0.68%
Some high school	15	10.14%
High school graduate	52	35.14%
Technical/Vocational	1	0.68%
Some college	48	32.43%
College graduate	30	20.27%
Graduate school/ Professional	1	0.68%
Race		
African American	4	2.68%
White	143	95.97%
Asian	2	1.34%
Other		
Hispanic Origin		
No	144	97.30%
Yes	4	2.70%
Living Situation		
Own home	133	89.26%
Rent home	10	6.71%
Live with parents	3	2.01%
Other	3	2.01%
Age (M=48.56, SD=16.27)		
0-24	6	4.1%
25-64	106	72.6%
65+	34	23.3%
Years in the Community		
	M	SD
Years	18.03	16.35

Some 89.26% owned their own home in the community of Oak Hill (see Table 5.6.7). The majority of the people were between the ages of 25-64 (69.13%), 24.83% were between the ages of 0-24, and 6.04 were aged 65 or over. The mean years in the community were 18.03 and the mean age was 48.06.

Most respondents were working full time (51.01%, see Table 5.6.8). A large portion of the population was not employed, retired, or disabled (42.28%). Over 35% of the population

was working outside of the community and confirmed that the local economy could not provide sufficient employment. The key informant interviews also revealed that many of the inhabitants were working at “the Cape” or along the coast. In the study population 17.69% were employed in service industries, 14.29% as professionals, 6.12% in retail, and 4.08% as clerical employees. Only 2.72% of the population reported being employed in fishing.

Table 5.6.8. Demographics for the Community of Oak Hill.

Employment Status	Frequency	%
Full time	76	51.01%
Part time	10	6.71%
Not employed/ retired/ disabled	63	42.28%
Place of Work		
Outside	53	35.57%
Inside	33	22.15%
Retired/ Don't Work	63	42.28%
Occupation		
Not Employed	63	42.86%
Agriculture	2	1.36%
Clerical	6	4.08%
Fishing	4	2.72%
Manufacturing	7	4.76%
Professional	21	14.29%
Retail	9	6.12%
Services	26	17.69%
Other	9	6.12%

5.6.4.2 Dependency

Here we examine issues of commercial and recreational fishing dependency, the importance of fishing to local culture, tourist dependency, and the linkage between tourism and fishing. Respondents indicated that they felt on average 33.68% of the population was involved in commercial fishing while another 48.10% were involved in recreational fishing (see Table 5.6.9). Far more than that suggested through other demographic statistics.

Table 5.6.9. The Average Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in Oak Hill According to Respondents.

% Of Residents in Recreational and Commercial Fishing Industries	Percent
Percentage of Residents involved in Commercial Fishing Industry	33.68%
Percentage of Residents involved in Recreational Fishing Industry	48.10%

Table 5.6.10 examined the importance of commercial fishing, recreational fishing, and tourism in their reported order of their importance for the local economy. Some 44.93% responded that commercial fishing was most important aspect of the economy followed by recreational fishing (29.79%), and finally tourism (25.90%). The key informant interviews suggested that there was a strong link between the recreational fishing industry and tourism.

Table 5.6.10. Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism in Oak Hill

	Least	%	Next	%	Most	%	M	SD
Rank of Commercial Fishing	47	34.06%	29	21.01%	62	44.93%	2.11	0.89
Rank of Recreational	25	17.73%	74	52.48%	42	29.79%	2.12	0.68
Rank of Tourism	68	48.92%	35	25.18%	36	25.90%	1.77	0.84

Table 5.6.11 examined the economic and social importance of fishing to the local community and were coded as follows: 0 = no and 1 = yes. Over half (58.82%) responded that the economy was dependent on recreational fishing. Only 45.32% stated that the economy was dependent on commercial fishing, 46.92% stated charter fishing made a contribution to the local economy, and 41.84 % of the respondents stated that the economy was tourist dependent.

These figures showed that recreational and charter fishing had increased in their importance in the local economy according to the respondents. According to many of the key informant interviews many of the people that came to the community because of recreational fishing. The vast majority (76.34%) felt that fishing regulations had an impact on their ability on fishers to make a living while 94.37% replied that the commercial fishing was important to the local culture. Some 54.14% stated commercial fishing was attractive to the local landscape and 58.78% stated that commercial fishing is an important draw for tourist. These figures clearly showed the importance of fishing as a part of the heritage and image of the town but not as an economic activity.

Table 5.6.11. The Importance of Fishing to the Local Economy in Oak Hill.

	No	%	Yes	%	M	SD
Economy is Commercially Fishing Dependent	76	54.68%	63	45.32%	0.45	0.50
Contribution of Charter Fishing to the Local Economy	69	53.08%	61	46.92%	0.47	0.50
Impact of Fishing Regulations on the Ability to make a Living	31	23.66%	100	76.34%	0.76	0.43
Importance of Fishing to the Local Culture	8	5.63%	134	94.37%	0.94	0.23
Economy is Tourist Dependent	82	58.16%	59	41.84%	0.42	0.50
Economy is Dependent on Recreationally Fishing	56	41.18%	80	58.82%	0.59	0.49
Commercial Fishing is an Important Draw for Tourist	54	41.22%	77	58.78%	0.59	0.49
Commercial Fishing is Attractive to the Local Landscape	61	45.86%	72	54.14%	0.54	0.50

5.6.4.3 Community

This section focuses on several concepts of community: locality, local society, and community action (Wilkinson, 1991). Some 52.35% reported there were community celebrations and 56.35% expressed there was a major event in the community's past. Over 73% reported there was a community wide project over the last five years. The majority (67.38%) stated there was a building for community meetings, 66.67% responded there was the existence of a group to encourage community growth, and 73.91% reported there was a citizen's

organization to improve the community. Overall these results show that the majority of the respondents felt that there was community action.

Table 5.6.12. The Existence of Community Indicators in Oak Hill.

	No	%	Yes	%	M	SD
Existence of a Community Monument	94	63.09%	35	23.49%	.27	.45
Existence of a Tourist Center	69	46.31%	66	44.30%	.49	.50
Sign to Mark the Community Border	55	36.91%	87	58.39%	.61	.49
Central Community Focal Point	47	31.54%	95	63.76%	.67	.47
Periodic Community Celebration	61	40.94%	78	52.35%	.56	.50
Community Owned Cemetery	32	21.48%	90	60.40%	.74	.44
Community Band	110	73.83%	15	10.07%	.12	.33
Community Wide Project Over the Last Five Years	36	26.67%	99	73.33%	.73	.44
A Building for Community Meetings	43	31.85%	92	68.15%	.68	.47
Citizens Organization to Improve the Community	33	26.19%	93	73.81%	.74	.44
Group to Encourage Community Growth	42	33.33%	84	66.67%	.67	.47
Major Event in the Community's Past	55	43.65%	71	56.35%	.56	.50

The indicators of locality and local society were mixed. Almost two thirds (63.76%) responded that there was a central community focal point, 60.40% stated there was a community owned cemetery, and 58.39% responded there was a sign to mark the community border. Less than one quarter (23.49%) reported that there was a community monument, only 44.30% identified a local tourist center, and only 10.07% indicated that there was a community band.

Table 5.6.13 examined the local society by investigating the capacity of local residents to meet their daily needs inside the community. The majority of respondents bought their clothes and got medical services outside a ten-mile radius. Another 44.88% went beyond a ten-mile radius to conduct banking. The key informant interviews indicated that the majority of the inhabitants had to travel outside of the community to meet their daily needs. The proximity of New Smyrna Beach is why the majority of the people did not have to travel farther.

Table 5.6.14 explores whether community respondents felt at home within the community and involved in the community (coded 1 = not at all, 2 = somewhat at home, and 3 = very much at home). The majority of the respondents felt very at home in the community with 83.22%. Some 36.91% of the respondents were somewhat involved in the community and 11.41% reported they were very involved. These numbers indicate that the majority of the respondents were comfortable in the community and at least somewhat involved.

The survey also examined community problems as perceived by the respondents (see Table 5.6.15). The major problems identified in the survey were regulation of fisheries (40.91%-serious problem and 32.73%-somewhat a serious problem), unemployment (36.09%-serious problem and 22.56% somewhat a serious problem), and lack of economic growth (35.62%-serious problem and 28.08% somewhat a serious problem). Other problems were increasing

property taxes (41.03%-serious problem, 28.57% somewhat a serious problem), and access to health care (24.31%-serious problem and 27.78% somewhat a serious problem).

Table 5.6.13. The Distance Traveled in Order to Satisfy Needs in Oak Hill.

Distance/ Miles to Travel	<1	%	1-3	%	4-6	%	7-10	%	10+	%
Distance to Buy Clothes	1	0.68%	3	2.03%	13	8.78%	28	18.92%	103	69.59%
Distance to Groceries	3	2.01%	32	21.48%	44	29.53%	45	30.20%	25	16.78%
Distance to Medical Services	1	0.68%	6	4.05%	18	12.16%	40	27.03%	83	56.08%
Distance to Attend Church	24	17.91%	45	33.58%	18	13.43%	27	20.15%	20	14.93%
Distance to Repair Car	14	10.07%	24	17.27%	17	12.23%	42	30.22%	42	30.22%
Distance to Bank	0	0.00%	20	13.51%	38	25.68%	52	35.14%	38	25.68%

Table 5.6.14. Responses Toward Feeling At Home and Being Involved in Oak Hill.

	Not at All	%	Somewhat	%	Very	%	M	SD
Feel at Home	1	0.67%	24	16.11%	124	83.22%	2.83	0.40
Involved in Community	77	51.68%	55	36.91%	17	11.41%	1.60	0.69

Table 5.6.15. Community Problems in Oak Hill.

	Not	%	Somewhat	%	Serious	%	M	SD
Lack of Economic Growth	53	36.30%	41	28.08%	52	35.62%	1.99	0.85
Increasing Residential Development	87	58.78%	40	27.03%	21	14.19%	1.55	0.73
Loss of Commercial Dockage	57	48.72%	25	21.37%	35	29.91%	1.81	0.87
Increasing Land Value is a Problem	67	46.53%	52	36.11%	25	17.36%	1.71	0.75
Increasing Property Taxes	42	30.00%	40	28.57%	58	41.43%	2.11	0.84
Unemployment	55	41.35%	30	22.56%	48	36.09%	1.95	0.88
Access to Health Care	69	47.92%	40	27.78%	35	24.31%	1.76	0.82
Regulation of Fisheries	29	26.36%	36	32.73%	45	40.91%	2.15	0.81
Pollution of the Marine Environment	73	52.14%	40	28.57%	27	19.29%	1.67	0.78
Traffic Congestion	116	77.85%	19	12.75%	14	9.40%	1.32	0.64
Increasing Newcomers	94	63.95%	34	23.13%	19	12.93%	1.49	0.72
Growth of Tourism	114	79.17%	21	14.58%	9	6.25%	1.27	0.57
Access to Quality Education	94	68.12%	24	17.39%	20	14.49%	1.46	0.74

Table 5.6.16 examined the key factors that respondents considered made an individual influential. The responses to these questions were coded: 1 = not at all, 2 = somewhat influential, and 3 = very influential. Personal characteristics (50.69% very influential), community participation (42.45 very influential), and length of residence (40.41% very influential) were attributes identified as being the most influential. Other important attributes

were whom you know (36.36% very influential), wealth (31.72% very influential) and family background (34.31% very influential). These results indicate that a person's family, wealth, and friends had an important influence in the individual's status in this community.

Table 5.6.16. Important Factors for a Person to be Influential in Oak Hill.

	Not at All	%	Somewhat	%	Very	%	M	SD
Length of Residence	39	26.71%	48	32.88%	59	40.41%	2.14	0.81
Family Background	56	40.88%	34	24.82%	47	34.31%	1.93	0.87
Occupation	79	55.24%	33	23.08%	31	21.68%	1.66	0.81
Land Ownership	54	37.24%	53	36.55%	38	26.21%	1.89	0.79
Wealth	87	60.00%	46	31.72%	46	31.72%	1.48	0.65
Personal	28	19.44%	43	29.86%	73	50.69%	2.31	0.78
Community Participation	26	18.71%	54	38.85%	59	42.45%	2.24	0.75
Who You Know	45	31.47%	46	32.17%	52	36.36%	2.05	0.83
Political Affiliation	79	56.83%	32	23.02%	28	20.14%	1.63	0.80
Holding Official Office	61	42.36%	54	37.50%	29	20.14%	1.78	0.76
Political Opinions	65	45.45%	47	32.87%	31	21.68%	1.76	0.79
Age	94	65.28%	36	25.00%	14	9.72%	1.44	0.67
Gender	115	80.42%	18	12.59%	10	6.99%	1.27	0.58
Level of Education	52	36.36%	60	41.96%	31	21.68%	1.85	0.75
Religious Affiliation	101	69.66%	26	17.93%	18	12.41%	1.43	0.70

5.6.4.4 Net Ban

Table 5.6.17 presents respondents' knowledge of the 1994 net ban. Some 78.52% of the residents had knowledge of the net ban. These respondents also responded that they either agreed (17.60%) or strongly agreed (68.00%) that the net ban had a negative impact on the community of Oak Hill (see Table 5.6.18). This information validated key informant interviews that acknowledged the net ban as one of the milestones of the community's history. The ban had disturbed the economic and social fabric of the community that was based on fishing. The change eliminated one of the primary sources of employment as well as a source of supplemental income for the community.

Table 5.6.17. Community Respondents On the Knowledge of the 1994 Net Ban in Oak Hill.

	No	%	Yes	%	M	SD
Knowledge of the Net Ban	32	21.48%	117	78.52%	0.79	0.41

Table 5.6.18. The Negative Impact of the 1994 Net Ban in Oak Hill.

	Strongly Disagree	%	Disagree	%	Agree	%	Strongly Agree	%	M	SD
Negative Impact of the 1994 Net Ban	8	6.40%	10	8.00%	22	17.60%	85	68.00%	3.47	0.89

6.0: CONCLUSIONS

There has been substantial research that attempts to define community and dependence upon natural resources. Much of that research suffers from inappropriate definitions of community and an inability to generate true community-level indicators. To remedy many of these shortcomings, we implemented a community definition using central place theory. Central places and hinterlands were used for the unit of analysis in defining and identifying fishing-dependent communities and the geographic basis for capturing forward and backward linkages. Zip code data was used to sort population centers and their surrounding hinterlands into central places. In order to complete the definition of fishing-dependent communities, data from the Census, Department of Environmental Protection-Marine Fisheries Commission, National Marine Fisheries Service, Bureau of Economic Analysis, and Bureau of Labor Statistics was compiled at the zip code level, and then aggregated into central places. Zipcode is a preferred unit for aggregation because much of the data that is used to defined dependence has the zipcode as its only geographic identifier.

Although there are many other issues which might influence a community definition and other methods that can be used to identify and define community, the central place model outlined here was developed using existing data with little modification. Qualitative methods and rapid rural appraisal provided further support for the model and minimized additional data collection to evaluate the efficacy of community definitions and fishing dependence, which is often done through extensive use of ethnographic methodology. Overall, this protocol should provide a reasonable basis for looking at community impacts of fishery regulations that can be applied throughout a regional management territory.

The protocol for identifying communities worked well and was confirmed in all six case study sites. In addition, the communities that we identified as commercial fishing dependence and were our case study sites (Panacea and Apalachicola) were identified by a majority of residents as commercially fishing dependent. We feel the protocol and the definition have been confirmed by this project and can be implemented in other states with current data. The major shortcomings in the protocol have all been related to data acquisition. In short, we have underestimated fishing employment and we did not have access to fishing income. If a government agency were to implement this protocol, and had access to information withheld from the public to meet government disclosure regulations, this method could be very effective.

6.1 Problems with the Protocol

Our first problem with the protocol became apparent with gathering of data at the zipcode level. We were relying on data from the County Business Patterns 1994 and 1996 where income data are withheld in the zipcode area if they would disclose the operations of an individual employer. Therefore, we were unable to utilize a monetary measure for dependency. However, the number of establishments in an industry classification and the distribution of establishments by employment size class are not considered to be disclosures and so the data were available to us. As a result, we were unable to gather data to complete our initial definition of 15% of jobs and 15% of income from fishing. Instead of relying upon jobs and income, we would focus

solely on jobs. In addition to this issue, we feel that the CBP significantly underestimates the commercial fishing sector.

Our second problem came in finding discrete data for the measurement of recreational fishing. When we tried to identify data that exclusively measured recreational fishing we discovered that recreation fall into at least three indiscriminate classifications (Services, Transportation, and Recreation). The only indicator that was clearly related to fishing (and mostly recreational) was SIC code 4493 Marinas. This does not adequately reflect recreational fishing, however, we felt it was necessary to use Marinas as a proxy to demonstrate what could be possible if adequate data were available.

A third problem was also seen with the development of the indicator or indicators of recreational fishing. Because recreational fishing is represented by Marina employment, we needed to use the multipliers for transportation that is included in the IMPLAN data set. We felt that transportation was too far removed from recreational fishing, so we used multipliers for recreational fishing developed by Thomas and Stratis (2001). To simplify our analysis, we assumed that every marina had a boat ramp. Thomas and Stratis' research indicated that 22 jobs were created for every boat ramp. To estimate recreational fishing employment, we assumed that 22 jobs were generated by each boat ramp (marina). This significantly underestimates employment because we did not include other boat ramps that may exist in the community (at the time we could not find data for boat ramps at the zipcode level).

A fourth problem was with the multipliers generated by IMPLAN. It was not possible to produce multipliers for each zipcode or aggregated community due to problems with data suppression. Research has shown that the multipliers are more accurate at the regional level. Therefore we used the nine Bureau of Economic Analysis regions for Florida for the appropriate multiplier (see Appendix III).

A fifth problem was that the data for commercial and recreational dependence could not be summed because it is likely that the recreational data double counts jobs that are attributable to the commercial sector. Better recreational data could eliminate this issue.

6.2 The Need for Additional Work

The protocol and definition of commercial fishing dependence has been adequately established by this research. However, for practical application in fisheries management decisions, current and complete data should be utilized. Since the ecological communities have been established in Florida, updating the data should simply be a matter of aggregating data.

Establishing adequate secondary community-level measures of recreational fishing needs a great deal of additional work. In fact, good reliable measures may require primary data collection. This is because the recreational sector is greatly intertwined with data in the service and transportation sectors.

6.3 Evaluation

The goals of the project were met. There was some modification of the objectives as described below. There was a particular portion of the project that was neither a goal or objective that deserves some discussion. Under the project management section of the proposal, we undertook to develop an advisory panel to help guide the development of a definition and location of fishing dependent communities. We formed an advisory panel, and did hold an initial meeting. During the meeting many of the private sector participants indicated that they could not continue to participate without financial support. We anticipated this response, so we had written in the proposal that we would use distance technology if we needed to reduce travel costs of participants. We developed a web site that was updated with current project information and posted an asynchronous web board where we posted questions to the panel to which they could reply and read others' replies. Unfortunately, only one advisory panel member used the system. We did contact the advisory panel several times by mail, with mixed results. It is our belief that the advisory panel could be effective if the panel was smaller and was funded for travel costs.

6.3 Goal Attainment

The two goals and associated objectives of the project were obtained, these goals and objectives and how they were obtained follow:

Goal 1. To define and identify fishing-dependent communities.

Objective 1. To develop a concrete and objective definition of fishing-dependent communities that applies to Florida and other states.

Objective 1 was achieved through several approaches. First, we conducted a literature review on communities and dependency. Next we did data analysis to establish a percentage threshold for dependency. This is detailed in sections 2 and 3 in this report.

Objective 2. To develop a reliable protocol for quantitatively identifying fishing-dependent communities that applies to Florida and other states.

Objective 2 was achieved by aggregating zipcodes into ecological communities. Next, zipcode-level data was aggregated in to community-level database. This data was used to identify fishing dependent communities in the state of Florida. This is detailed in section 2 and 3 in this report.

Goal 2. To empirically evaluate the definition of fishing-dependent communities and the identifying protocol.

Objective 1. To develop a typology that differentiates Florida fishing-dependent communities into categories based on region and economic structure.

Objective 1 of goal 2 was achieved by analyzing fishing employment data and coastal location of communities. The typology represents communities that gained, lost, or stayed

neutral in fishing employment. There was one community selected in each category for the Atlantic Ocean and Gulf of Mexico coasts. This is detailed in section 4.

Objective 2. To evaluate the definition and identification process using in depth case studies of selected fishing-dependent communities.

We used a variety of techniques to evaluate the definition and identification process through case studies. We began by constructing a secondary database. Next we conducted key informant interviews in the six communities. Last, we conducted a telephone survey of the residents of the six communities. The purpose of this work was to confirm the dependency or non-dependency designation among the residents and the community boundaries. These were confirmed in all cases. This is detailed in section 5 and Appendix 1.

Objective 3. To test this process by collecting demographic data on fishing families and community business proprietors involved in fishing related enterprises.

Using survey data, we established the forward and backward linkages in the community as well as the community boundaries. This is detailed in section 5 and in Appendix 1.

Objective 4. To modify the empirically-generated definition of fishing-dependent communities based on an evaluation by community residents.

Objective 5. To refine the fishing-dependent community identification protocol.

Objectives 4 and 5 were unnecessary because community residents confirmed our definitions and protocol.

6.5 Goal Modification

The goals of the project were not modified. We did develop a relative definition of fishing dependent communities. We did not develop an absolute definition of dependence as it made little sense when we examined the data. This is explained fully in section 2.2.

6.6 Dissemination of Project Results

Project results have been presented at professional meetings and in academic journals.

6.6.1 Paper Presentations:

Michael Jepson and Steve Jacob. "Theoretical and Practical Considerations in Defining and Identifying Fishing-dependent Communities." Paper prepared for the Annual Meeting of the American Fisheries Society. Charlotte, North Carolina. August 1999.

Jepson, Michael & Steve Jacob. Constructing Coastal Histories: Using GIS to Identify Fishing Communities in Florida. Presented at the annual meetings of the Society for Applied Anthropology, San Francisco, California, March 2000.

Steve Jacob and Michael Jepson. Landing and Definition of Fishing Dependent Communities: Potential Social Science Contributions to Meeting National Standard 8. Paper prepared for the Annual Meeting of the Rural Sociological Society, Washington DC. August 2000.

Jepson, Michael, Steve Jacob, & Suzanna Smith. Defining and Identifying Fishing-Dependent Communities. Presented at the annual meetings of the American Anthropological Association, San Francisco, California, November 2000.

Jepson, Michael & Steve Jacob. Florida Fishing Communities: Integrating Identification, Definition and Dependence. Presented at the Midyear Meeting of the Southern Division American Fisheries Society. Jacksonville, Florida, February 2001.

6.6.2 Refereed Publications:

Steve Jacob and Michael Jepson. 2000. Defining and Identifying Fishing Dependent Communities in Florida. *Urban Anthropology*, 29(3):221-254.

Steve Jacob, Frank L. Farmer, Michael Jepson, and Charles Adams. 2001. Landing and Definition of Fishing Dependent Communities: Potential Social Science Contributions to Meeting National Standard 8. *Fisheries*, 26(10):16-22.

We intend to continue to analyze this data and prepare and present academic papers. In addition, we will distribute the executive summary and the full report electronically to our advisory panel members. Michael Jepson has shared our results with the Gulf or Mexico and South Atlantic Fishery Management Councils and will continue to communicate our results with them.

6.7 Replicability of Protocol

The idea that data aggregated at the zipcode level, when combined in a systematic and theoretical manner, may represent community seems plausible from this research. Community boundaries seemed to make intuitive sense to the investigators who have had considerable experience working with Florida coastal communities. Key informant interviews substantiated the viability of those same community boundaries as informants described their patterns of residence and business patterns.

We used economic multipliers applied to several of the employment and income variables related to commercial fishing as described in Robinson (1997). Such data we believe provides a better indicator of dependency. As for our definition of community, as aggregated by zipcode, it is a broader ecological definition that encompasses a larger geographic region. This larger geographic region is a more accurate representation of the regional economic base that

includes the central place and the hinterland, often missed with the more narrow definition of community. Capturing the economic activity in a broader region makes it more difficult for any individual sector to reach a threshold of dependency for that region. This is because the individual sector's impact is diluted over a greater number of economic activities and people. Therefore it is important to look at the individual sector's backward and forward linkages in the economy that are manifested over a geographical region. It is critical, then, in any realistic model to include the multiplier effect that captures the forward and backward linkages in any sector dependency model.

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APPENDIX I: Survey Results Summary

Table 6.1. Community Respondent's Mean Scores About Feeling At Home and Being Involved in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
Feel at Home	2.87	2.83	2.80	2.84	2.73	2.82	2.81
*Involved in Community	2.10	1.60	1.87	1.94	1.83	1.93	1.88

*Significant at a p value > .05.

Table 6.2. T-Test Between The Community Respondent's and Fisher's Mean Scores About Feeling At Home and Being Involved in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Fisher's	Community	T	Sig
*Feels at Home	2.90	2.81	38.02	.00
Involved in Community	2.90	2.81	3.60	.05

*Significant at a p value > .05.

Table 6.3 Community Respondent's Mean Scores About Fishing and The Local Economy in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Economy is Commercially Fishing Dependent	.64	.45	.74	.92	.49	.27	.56
*Contribution of Charter Fishing to the Local Economy	.49	.47	.64	.62	.84	.66	.63
*Impact of Fishing Regulations on the Ability to make a Living	.72	.76	.81	.91	.62	.59	.73
*Importance of Fishing to the Local Culture	.96	.94	.94	.98	.96	.90	.95
*Economy is Tourist Dependent	.79	.42	.52	.72	.94	.84	.73
*Economy is Dependent on Recreationally Fishing	.50	.59	.62	.50	.83	.50	.59
*Commercial Fishing is an Important Draw for Tourist	.63	.59	.58	.78	.60	.55	.62
*Commercial Fishing is Attractive to the Local Landscape	.80	.54	.60	.87	.55	.71	.68

* Significant at a p value > .05.

Table 6.4. T-Test Between The Community Respondent's and Fisher's Mean Scores About Fishing and The Local Economy in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)

	Fisher's	Community	T	Sig
*Economy is Commercially Fishing Dependent	.81	.56	454.01	.00
Contribution of Charter Fishing to the Local Economy	.60	.63	3.28	.07
*Impact of Fishing Regulations on the Ability to make a Living	.94	.73	339.96	.00
*Importance of Fishing to the Local Culture	.98	.95	24.21	.00
*Economy is Tourist Dependent	.65	.73	17.50	.00
*Economy is Dependent on Recreationally Fishing	.50	.59	8.00	.00
*Commercial Fishing is an Important Draw for Tourist	.73	.62	53.59	.00
*Commercial Fishing is Attractive to the Local Landscape	.83	.68	112.35	.00

* Significant at a p value > .05.

Table 6.5. Community Respondent's Mean Scores About Community Indicators in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Existence of a Community Monument	.59	.27	.09	.17	.15	.38	.28
*Existence of a Tourist Center	.87	.49	.21	.90	.93	.92	.76
*Sign to Mark the Community Border	.68	.61	.39	.67	.85	.85	.70
*Central Community Focal Point	.86	.67	.38	.91	.52	.93	.73
*Periodic Community Celebration	.98	.56	.95	.98	.91	.97	.90
*Community Owned Cemetery	.99	.74	.58	.93	.09	.87	.70
*Community Band	.24	.12	.15	.55	.58	.66	.42
*Community Wide Project Over the Last Five Years	.81	.73	.74	.87	.89	.92	.84
*A Building for Community Meetings	.77	.68	.48	.84	.67	.85	.73
*Citizens Organization to Improve the Community	.85	.74	.79	.88	.90	.96	.87
*Group to Encourage Community Growth	.66	.67	.66	.82	.87	.91	.79
*Major Event in the Community's Past	.95	.56	.77	.88	.93	.89	.85

* Significant at a p value > .05.

Table 6.6.T-Test Between The Community Respondent's and Fisher's Mean Scores About Community Indicators in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)

	Fisher's	Community	T	T
*Existence of a Community Monument	.22	.28	16.35	.00
Existence of a Tourist Center	.76	.76	.023	.88
*Sign to Mark the Community Border	.58	.70	27.43	.00
*Central Community Focal Point	.63	.73	28.95	.00
*Periodic Community Celebration	.88	.90	5.48	.01
Community Owned Cemetery	.68	.70	1.92	.16
*Community Band	.33	.42	29.48	.00
*Community Wide Project Over the Last Five Years	.76	.84	23.68	.00
*A Building for Community Meetings	.78	.73	9.19	.00
*Citizens Organization to Improve the Community	.82	.87	10.42	.00
Group to Encourage Community Growth	.76	.79	2.50	.11
*Major Event in the Community's Past	.83	.85	2.61	.10

* Significant at a p value > .05.

Table 6.7. Community Respondent's Mean Scores About Community Problems in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not, 2=Somewhat, 3=Serious)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Lack of Economic Growth	1.60	1.99	1.97	2.20	1.69	1.27	1.74
*Increasing Residential Development	1.81	1.55	1.48	1.96	1.88	1.92	1.80
*Loss of Commercial Dockage	1.84	1.81	1.61	1.95	1.49	1.52	1.69
*Increasing Land Value is a Problem	2.37	1.71	1.60	2.39	2.06	1.86	2.01
*Increasing Property Taxes	2.69	2.11	1.80	2.42	2.18	2.02	2.21
Unemployment	1.76	1.95	1.94	2.08	1.38	1.29	1.69
*Access to Health Care	2.36	1.76	1.90	2.06	1.73	1.37	1.83
*Regulation of Fisheries	1.92	2.15	2.19	2.44	1.76	1.61	2.00
*Pollution of the Marine Environment	1.52	1.67	1.66	1.84	2.31	1.90	1.85
*Traffic Congestion	1.32	1.32	1.26	1.62	2.07	1.90	1.63
*Increasing Newcomers	1.63	1.49	1.40	1.88	1.62	1.88	1.68
*Growth of Tourism	1.41	1.27	1.27	1.74	1.69	1.56	1.52
*Access to Quality Education	1.26	1.46	1.30	2.29	1.86	1.60	1.65

* Significant at a p value > .05.

Table 6.8. T-Test Between The Community Respondent's and Fisher's Mean Scores About Community Problems in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not, 2=Somewhat, 3=Serious)

	Fisher's	Community	T	Sig
Lack of Economic Growth	1.70	1.74	1.57	.21
Increasing Residential Development	1.99	1.80	.73	.39
Loss of Commercial Dockage	1.69	1.69	2.20	.13
*Increasing Land Value is a Problem	2.01	2.01	7.97	.00
Increasing Property Taxes	2.26	2.21	.39	.53
Unemployment	1.70	1.69	.01	.91
*Access to Health Care	1.96	1.83	.00	.94
Regulation of Fisheries	2.54	2.00	3.62	.05
*Pollution of the Marine Environment	1.84	1.85	6.85	.00
*Traffic Congestion	1.86	1.63	.85	.35
*Increasing Newcomers	1.79	1.68	6.86	.00
*Growth of Tourism	1.80	1.52	15.18	.00
*Access to Quality Education	2.27	1.65	5.03	.02

* Significant at a p value > .05.

Table 6.9. Community Respondent's Mean Scores About Important Factors for a Person to be Influential in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not at All, 2=Somewhat, 3=Very)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
Length of Residence	2.14	2.14	2.12	2.20	2.09	2.05	2.12
*Family Background	2.14	1.93	2.02	2.14	1.78	1.90	1.98
*Occupation	1.76	1.66	1.68	2.00	1.80	1.75	1.78
Land Ownership	1.93	1.89	1.94	1.95	1.89	1.96	1.93
*Wealth	1.64	1.48	1.57	1.71	1.69	1.77	1.66
Personal	2.41	2.31	2.26	2.31	2.41	2.30	2.33
Community Participation	2.41	2.24	2.31	2.41	2.49	2.38	2.38
*Who You Know	2.21	2.05	2.36	2.26	2.13	2.27	2.21
Political Affiliation	1.59	1.63	1.66	1.69	1.59	1.70	1.65
Holding Official Office	1.78	1.78	1.79	1.83	1.84	1.88	1.82
Political Opinions	1.70	1.76	1.83	1.80	1.84	1.85	1.80
Age	1.38	1.44	1.42	1.54	1.53	1.48	1.47
Gender	1.37	1.27	1.31	1.37	1.28	1.30	1.31
*Level of Education	1.63	1.85	1.78	1.96	1.93	1.90	1.85
*Religious Affiliation	1.49	1.43	1.40	1.45	1.27	1.40	1.40

* Significant at a p value > .05.

Table 6.10. T-Test Between The Community Respondent's and Fisher's Mean Scores About Important Factors for a Person to be Influential in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Not at All, 2=Somewhat, 3=Very)

	Fisher's	Community	T	Sig
Length of Residence	2.27	2.12	.06	.79
Family Background	2.13	1.98	.12	.72
Occupation	1.94	1.78	.36	.54
Land Ownership	2.03	1.93	.81	.36
Wealth	1.72	1.66	2.44	.11
Personal	2.34	2.33	.01	.91
Community Participation	2.35	2.38	.08	.77
Who You Know	2.24	2.21	.03	.84
Political Affiliation	1.55	1.65	1.56	.21
Holding Official Office	1.76	1.82	.06	.79
Political Opinions	1.75	1.80	.76	.38
Age	1.47	1.47	.20	.65
Gender	1.31	1.31	.01	.91
Level of Education	1.85	1.85	.81	.36
Religious Affiliation	1.47	1.40	3.32	.06

* Significant at a p value > .05.

Table 6.11. Community Respondent's Perceptions of the Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Percentage of Residents involved in Commercial Fishing Industry	55.01%	33.68%	47.61%	58.57%	31.88%	19.24%	40.76%
*Percentage of Residents involved in Reccreational Fishing Industry	34.00%	48.01%	51.15%	36.41%	53.55%	37.63%	43.09%

*Significant at a p value > .05.

Table 6.12. T-Test Between The Community Respondent's and Fisher's Perceptions of the Percentage of Residents Involved in the Recreational and Commercial Fishing Industries in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Fisher's	Community	T	Sig
*Percentage of Residents involved in Commercial Fishing Industry	52.41	40.76	8.69	.00
Percentage of Residents involved in Reccreational Fishing Industry	37.40	43.09	.04	.49

*Significant at a p value > .05.

Table 6.13. Community Respondent's Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Least, 2= Next, 3= Most)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Rank of Commercial Fishing	2.51	2.11	2.38	2.72	1.58	1.76	2.13
*Rank of Recreational	1.35	2.12	2.10	1.56	1.85	1.59	1.74
*Rank of Tourism	2.19	1.77	1.53	1.73	2.60	2.70	2.16

* Significant at a p value > .05.

Table 6.14. T-Test Between Community Respondent's and Fisher's Mean Ranking of the Importance of the Economic Activities of Commercial Fishing, Recreational Fishing, and Tourism In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Least, 2= Next, 3= Most)

	Fisher's	Community	T	Sig
*Rank of Commercial Fishing	2.56	2.13	26.94	.49
*Rank of Recreational	1.57	1.74	.46	.00
*Rank of Tourism	2.16	2.16	18.35	.07

* Significant at a p value > .05.

Table 6.15. Community Respondent's Mean Scores for the Distance That They Must Travel In Order To Satisfy Needs In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=>10 Miles, =7-10 Miles, 3=4-6 Miles, 4=1-3 Miles, 5=<a Mile)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Distance to Buy Clothes	1.21	1.45	1.11	1.20	2.53	2.09	1.67
*Distance to Groceries	1.69	2.62	2.05	3.85	3.55	3.44	2.97
*Distance to Medical Services	1.03	1.66	1.57	3.00	3.31	2.99	2.39
	3.48	3.19	3.17	4.21	3.61	3.41	3.53
*Distance to Repair Car	2.12	2.47	2.13	3.16	3.26	3.20	2.80
*Distance to Bank	3.62	2.27	2.35	4.07	3.78	3.38	3.31

* Significant at a p value > .05.

Table 6.16. T-Test Between The Community Respondent's and Fisher's Mean Scores for the Distance That They Must Travel In Order To Satisfy Needs In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=>10 Miles, =7-10 Miles, 3=4-6 Miles, 4=1-3 Miles, 5=<a Mile)

	Fisher's	Community	T	Sig
Distance to Buy Clothes	1.66	1.67	.01	.89
Distance to Groceries	2.83	2.97	.30	.58
*Distance to Medical Services	2.27	2.39	7.91	.00
*Distance to Attend Church	3.86	3.53	25.28	.00
Distance to Repair Car	3.37	2.80	2.75	.09
*Distance to Bank	3.68	3.31	8.94	.00

* Significant at a p value > .05.

Table 6.17. Community Respondent's Mean Scores On the Knowledge of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Knowledge of the 1994 Net Ban	.88	.79	.89	.55	.55	.57	.73

* Significant at a p value > .05.

Table 6.18. T-Test Between The Community Respondent's and Fisher's Mean Scores On the Knowledge of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (0=No, 1=Yes)

	Fisher's	Community	T	Sig
*Knowledge of the 1994 Net Ban	.93	.73	3.11	.00

Significant at a p value > .05.

Table 6.19. Community Respondent's Mean Scores On the Impact of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree)

	Cedar Key	Oak Hill	Panacea	Apalachicola	Marathon	Amelia Island	Grand Mean
*Impact of the 1994 Net Ban	3.63	3.47	3.32	3.65	2.55	2.72	3.25

Significant at a p value > .05.

Table 6.20. T-Test Between The Community Respondent's and Fisher's Mean Scores On the Impact of the 1994 Net Ban In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island. (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree)

	Fisher's	Community	T	Sig
*Impact of the 1994 Net Ban	3.65	3.25	28.59	.00

Significant at a p value > .05.

Table 6.21. Community Respondent's Frequency Distribution for Gender In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Percent
Male	60.5
Female	39.5
Total	100.0

Table 6.22. Fisher's Frequency Distribution for Gender In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Percent
Male	80.8
Female	19.2
Total	100.0

Table 6.23. Community Respondent's Frequency Distribution for Education Level In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Percent
8 th Grade or Less	1.9
Some High School	6.9
High School Graduate	29.0
Technical/Vocational	2.8
Some College	26.6
Graduate School	22.3
Professional	10.5
Total	100.0

Table 6.24. Fisher's Frequency Distribution for Education Level In the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Percent
8 th Grade or Less	5.3
Some High School	18.9
High School Graduate	39.2
Technical/Vocational	4.0
Some College	19.4
Graduate School	10.6
Professional	2.6
Total	100.0

Table 6.25. Community Respondent's Frequency Distribution for Working Inside and Outside the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Percent
Outside	18.7
Inside	44.7
Retired/ Don't Work	36.6
Total	100.0

Table 6.26. Fisher's Frequency Distribution for Working Inside and Outside the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Percent
Outside	15.7
Inside	65.9
Retired/ Don't Work	18.3
Total	100.0

Table 6.27. Community Respondent's Frequency Distribution for Marital Status in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Marital Status	Percent
Single	17.0
Married	62.1
Divorced	11.6
Widow	9.2
Total	100.0

Table 6.28. Fisher's Frequency Distribution for Marital Status in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

	Percent
Single	11.8
Married	82.1
Divorced	5.7
Widow	.4
Total	100.0

Table 6.29. Community Respondent's Frequency Distribution for Race in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Place of Work	Percent
Black	4.4
White	93.1
Asian	.4
Other	2.1
Total	100.0

Table 6.30. Community Respondent's Frequency Distribution for Occupation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Place of Work	Percent
Agriculture	2.0
Clerical	5.2
Fishing	4.5
Manufacturing	2.6
Professional	20.8
Retail	6.9
Services	16.2
Not Employed/ Retired/Disabled	36.7
Other	5.0
Total	100.0

Table 6.31. Fisher's Frequency Distribution for Occupation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Place of Work	Percent
Agriculture	6.4
Clerical	2.3
Fishing	55.9
Manufacturing	.9
Professional	6.8
Retail	2.3
Services	6.4
Not Employed/ Retired/Disabled	19.1
Other	0
Total	100.0

Table 6.32. Community Respondent's Frequency Distribution for Living Situation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Living Situation	Percent
Own Home	83.4
Rent Home	11.9
Live with Parents	2.6
Other	2.1
Total	100.0

Table 6.33. Fisher’s Frequency Distribution for Living Situation in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Living Situation	Percent
Own Home	88.6
Rent Home	96.1
Live with Parents	99.1
Other	100.0
Total	88.6

Table 6.34. Community Respondent’s Mean Score for Age in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Mean	SD
52	16.72

Table 6.35. Fisher’s Mean Score for Age in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Mean	SD
49	13.53

Table 6.36. Community Respondent’s Mean Score for Number of Years in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Mean	SD
20.12	18.58

Table 6.37. Fisher’s Mean Score for Number of Years in the Communities of Cedar Key, Oak Hill, Panacea, Apalachicola, Marathon, and Amelia Island.

Mean	SD
34.52	19.95

APPENDIX II: Aggregated Zipcode Communities Key with Population

Alachua (18,411)

32615, FL, Santa Fe, Alachua, 0
32615, FL, Alachua, Alachua, 1.89
 32616, FL, Alachua, Alachua, 0.57
 32643, FL, High Springs, Alachua, 7.6
 32655, FL, High Springs, Alachua, 7.18
 32658, FL, La Crosse, Alachua, 6

Alford (2203)

32420, FL, Alford, Jackson, 0

Altha (3,496)

32421, FL, Altha, Calhoun, 0

Amelia Island (30,741)

32014, FL, Yulee, Nassau
32034, FL, Amelia Island, Nassau, 0
 32034, FL, Fernandina Beach, Nassau, 2.66
 32035, FL, Fernandina Beach, Nassau, 1.54
 32041, FL, Yulee, Nassau, 6.71
 32097, FL, Yulee, Nassau, 7.67

Apalachicola (6,959)

32320, FL, Apalachicola, Franklin, 0
 32328, FL, Eastpoint, Franklin, 4.78
 32328, FL, Saint George Island, Franklin, 4.78
 32329, FL, Apalachicola, Franklin, 0.31

Apopka (163,376)

32703, FL, Hunt Club, Orange, 0
 32703, FL, Apopka, Orange, 1.56
 32704, FL, Apopka, Orange, 3.2
 32710, FL, Clarcona, Orange, 3.36
32712, FL, Apopka, Orange, 3.8
 32768, FL, Plymouth, Orange, 4.3
 32779, FL, Wekiva Springs, Seminole, 5.51
 32779, FL, Longwood, Seminole, 7.17
 32791, FL, Longwood, Seminole, 5.62
 32791, FL, Wekiva Springs, Seminole, 5.62
 32793, FL, Winter Park, Orange, 0.98
 32798, FL, Zellwood, Orange, 7
 32818, FL, Orlando, Orange, 5.67
 32818, FL, Hiawassee, Orange, 5.67
 32835, FL, Orlando, Orange, 9.32
 34734, FL, Gotha, Orange, 9.4
 34761, FL, Ocoee, Orange, 5.96
 34777, FL, Winter Garden, Orange, 8.53
 34778, FL, Winter Garden, Orange, 8.53

Arcadia (24,672)

33821, 24672, Arcadia
 34265, Arcadia

34266, Arcadia

Archer (15,514)

32618, FL, Archer, Alachua, 0
 32621, FL, Bronson, Levy, 9.49
 32669, FL, Newberry, Alachua, 8.97

Astatula (2,245)

34705, FL, Astatula, Lake, 0

Belle Glade (38,216)

33430, FL, Belle Glade, Palm Beach, 0
 33459, FL, Lake Harbor, Palm Beach, 9.02
 33476, FL, Pahokee, Palm Beach, 9.28
 33493, FL, South Bay, Palm Beach, 3.08

Big Pine Key (5,339)

33042, FL, Big Torch Key, Monroe, 7.02
 33042, FL, Cudjoe Key, Monroe, 7.02
 33042, FL, Little Torch Key, Monroe, 7.02
 33042, FL, Lower Sugarloaf Key, Monroe, 7.02
 33042, FL, Mid Torch Key, Monroe, 7.02
 33042, FL, Middle Torch Key, Monroe, 7.02
 33042, FL, Ramrod Key, Monroe, 7.02
 33042, FL, Upper Sugarloaf Key, Monroe, 7.02
*33043, FL, Big Pine Key, Monroe, 0
 33043, FL, Summerland Key, Monroe, 1.09
 33049, FL, Summerland Key, Monroe

Blountstown (12,038)

32321, FL, Bristol, Liberty, 4.36
32424, FL, Blountstown, Calhoun, 0
 32430, FL, Clarksville, Calhoun, 9.79
 32335, FL, Sumatra

Boca Raton (348,818)

33427, FL, Boca Raton, Palm Beach, 6
 33429, FL, Boca Raton, Palm Beach, 7.55
 33431, FL, Boca Raton, Palm Beach, 5.14
 33432, FL, Boca Raton, Palm Beach, 7.75
 33444, FL, Delray Beach, Palm Beach, 1.66
 33445, FL, Delray Beach, Palm Beach, 0
 33446, FL, West Delray Beach, Palm Beach, 4.2
 33446, FL, Delray Beach, Palm Beach, 4.79
 33447, FL, Delray Beach, Palm Beach, 2.22
 33448, FL, Delray Beach, Palm Beach, 2.04
 33448, FL, West Delray Beach, Palm Beach, 2.04
 33481, FL, Boca Raton, Palm Beach, 6
 33482, FL, Delray Beach, Palm Beach, 1.12
 33483, FL, Delray Beach, Palm Beach, 2.54
 33483, FL, Gulf Stream, Palm Beach, 2.54

33484, FL, West Delray Beach, Palm Beach, 1.79
 33486, FL, Boca Raton, Palm Beach, 7.92
33487, FL, Boca Raton, Palm Beach, 4.14
 33487, FL, Highland Beach, Palm Beach, 4.14
 33488, FL, Boca Raton, Palm Beach, 7.13
 33497, FL, Boca Raton, Palm Beach, 6
 33499, FL, Boca Raton, Palm Beach, 7.74
 33065, FL, Coral Springs, Broward, 0
 33066, FL, Pompano Beach, Broward, 5.38
 33067, FL, Coral Springs, Broward, 2.89
 33067, FL, Parkland, Broward, 2.89
 33067, FL, Pompano Beach, Broward, 3.52
 33067, FL, Coconut Creek, Broward, 3.52
 33073, FL, Coral Springs, Broward, 5.09
 33073, FL, Margate, Broward, 5.09
 33073, FL, Parkland, Broward, 5.09
 33073, FL, Coconut Creek, Broward, 5.2
 33076, FL, Pompano Beach, Broward, 1.72
 33076, FL, Coconut Creek, Broward, 1.72
 33076, FL, Coral Springs, Broward, 2.13
 33076, FL, Parkland, Broward, 2.48
 33343, FL, Boca Raton, Palm Beach
 33428, FL, Boca Raton, Palm Beach, 6.85
 33433, FL, Boca Raton, Palm Beach, 8.01
 33434, FL, Boca Raton, Palm Beach, 9.62
 33441, FL, Deerfield Beach, Broward, 9.95
 33442, FL, Deerfield Beach, Broward, 7.64
 33443, FL, Deerfield Beach, Broward, 9.2
 33498, FL, Boca Raton, Palm Beach, 8.85

Bokeelia (3,263)

*33922,FL,Bokeelia,Lee, 0
 33945,FL,Pineland,Lee, 0.6

Bonifay (12,774)

32425,FL,Bonifay,Holmes, 0
 32427,FL,Caryville,Washington, 7.4

Bonita Springs (23,946)

33923, 23946, Bonita Springs
 33959, Bonita Springs
 34133, Bonita Springs
 34134, Bonita Springs
 34135, Bonita Springs
 34136, Bonita Springs

Bradenton (208,749)

33529, FL, Bradenton, Manatee
 34201, FL, Bradenton, Manatee, 2.61
 34201, FL, University Park, Manatee, 2.61
 34203, FL, Bradenton, Manatee, 4.17
 34204, FL, Bradenton, Manatee, 0.56
34205, FL, Bradenton, Manatee, 0
 34206, FL, Bradenton, Manatee, 1.26
 34207, FL, Bradenton, Manatee, 2.97
 34208, FL, Bradenton, Manatee, 3.13

34209, FL, Palma Sola, Manatee, 2.54
 34209, FL, Bradenton, Manatee, 3.92
 34210, FL, Bradenton, Manatee, 3.74
 34215, FL, Cortez, Manatee, 6.28
 34216, FL, Anna Maria, Manatee, 9.77
 34217, FL, Bradenton Beach, Manatee, 8.09
 34217, FL, Holmes Beach, Manatee, 8.21
 34218, FL, Holmes Beach, Manatee, 7.88
 34218, FL, Bradenton Beach, Manatee, 7.88
 34220, FL, Palmetto, Manatee, 2.77
 34221, FL, Rubonia, Manatee, 4.53
 34221, FL, Palmetto, Manatee, 6.83
 34222, FL, Ellenton, Manatee, 6.23
 34228, FL, Longboat Key, Manatee, 6.57
 34250, FL, Terra Ceia, Manatee, 6.4
 34260, FL, Manasota, Manatee, 4.94
 34264, FL, Oneco, Manatee, 3.73
 34280, FL, Bradenton, Manatee, 3.33
 34280, FL, Palma Sola, Manatee, 3.33
 34281, FL, Bradenton, Manatee, 0.56
 34282, FL, Bradenton, Manatee, 2.92

Bradenton (8,092)

34202, 8092, Bradenton

Brandon (178,299)

33509, FL, Brandon, Hillsborough, 3.3
 33510, FL, Brandon, Hillsborough, 1.92
33511, FL, Brandon, Hillsborough, 0
 33527, FL, Dover, Hillsborough, 5.97
 33530, FL, Durant, Hillsborough, 8.21
 33550, FL, Mango, Hillsborough, 3.54
 33567, FL, Plant City, Hillsborough, 9.27
 33568, FL, Riverview, Hillsborough, 4.14
 33569, FL, Riverview, Hillsborough, 5.52
 33583, FL, Seffner, Hillsborough, 5.02
 33584, FL, Seffner, Hillsborough, 4.47
 33587, FL, Sydney, Hillsborough, 6.73
 33592, FL, Thonotosassa, Hillsborough, 9.37
 33594, FL, Valrico, Hillsborough, 2.83
 33595, FL, Valrico, Hillsborough, 2.52
 33601, FL, Tampa, Hillsborough, 4.8
 33637, FL, Temple Terrace, Hillsborough, 8.67
 33694, FL, Tampa, Hillsborough, 2.23

Branford (4,106)

32008,FL,Branford,Suwannee, 0
 32071,FL,O'Brien,Suwannee, 1.16

Brooksville (122,685)

32642, FL, Hernando
34601, FL, Brooksville, Hernando, 9.48
 34603, FL, Brooksville, Hernando, 8.45
 32604, FL, Spring Hill, Pasco
 34605, FL, Brooksville, Hernando, 7
 34606, FL, Brooksville, Hernando, 6.99

34606, FL, Weeki Wachee, Hernando, 6.99
34606, FL, Spring Hill, Hernando, 7.64
34607, FL, Spring Hill, Hernando, 7.13
34607, FL, Brooksville, Hernando, 7.13
34607, FL, Hernando Beach, Hernando, 7.51
34607, FL, Weeki Wachee, Hernando, 7.51
34608, FL, Spring Hill, Hernando, 5.92
34608, FL, Brooksville, Hernando, 6.11
34609, FL, Masaryktown, Hernando, 5.06
34609, FL, Spring Hill, Hernando, 5.99
34609, FL, Brooksville, Hernando, 5.99
34610, FL, Brooksville, Pasco, 0
34610, FL, Spring Hill, Pasco, 1.38
34610, FL, Shady Hills, Pasco, 2.17
34610, FL, Weeki Wachee, Pasco, 2.17
34611, FL, Spring Hill, Hernando, 6.33
34613, FL, Weeki Wachee, Hernando, 9.76
34613, FL, Brooksville, Hernando, 0
34614, FL, Weeki Wachee, Hernando, 3.94
34614, FL, Brooksville, Hernando, 4.93

Bushnell (14,917)

33513,FL,Bushnell,Sumter, 6.71
33597,FL,Ridge Manor Estates,Sumter, 0
33597,FL,Webster,Sumter, 4.01
34636,FL,Istachatta,Hernando, 8.12
34661,FL,Nobleton,Hernando, 6.98

Callahan (10,411)

32011,FL,Callahan,Nassau, 0

Canal Point (1,613)

*33438,FL,Canal Point,Palm Beach, 0
33439,FL,Bryant,Palm Beach, 2.18
33439,FL,Canal Point,Palm Beach, 2.18

Cantonment (21,252)

32533,FL,Cantonment,Escambia, 0
32560,FL,Gonzalez,Escambia, 4.38
32577,FL,Molino,Escambia, 6.22

Captiva (867)

33924,FL,Captiva,Lee, 0

Carrabelle (2,179)

*32322,FL,Carrabelle,Franklin, 0
32323,FL,Lanark Village,Franklin, 4.47

Cedar Key (1,309)

32625,FL,Cedar Key,Levy, 0

Century (5,293)

32535,FL,Century,Escambia, 0

Chiefland (20,376)

32619,FL,Bell,Gilchrist, 9.65

32626,FL,Chiefland,Levy, 0

32644,FL,Chiefland,Levy, 0.34

32693,FL,Trenton,Gilchrist, 9.38

Chipley (16,565)

32428,FL,Chipley,Washington, 0

32428,FL,Sunny Hills,Washington, 1.76

32462,FL,Vernon,Washington, 8.24

32463,FL,Wausau,Washington, 1.15

Clearwater (199,320)

33515, FL, Clearwater Beach
34617, FL, Clearwater, Pinellas
34618, FL, Clearwater, Pinellas
33626, FL, Tampa, Hillsborough, 9.39
33635, FL, Tampa, Hillsborough, 9.72
33755, FL, Clearwater, Pinellas, 8.07
33756, FL, Clearwater, Pinellas, 8.07
33757, FL, Clearwater, Pinellas, 8.07
33758, FL, Clearwater, Pinellas, 8.07
33759, FL, Clearwater, Pinellas, 8.07
33760, FL, Clearwater, Pinellas, 8.07
33761, FL, Clearwater, Pinellas, 8.07
33762, FL, Clearwater, Pinellas, 8.07
33763, FL, Clearwater, Pinellas, 8.07
33764, FL, Clearwater, Pinellas, 8.07
33765, FL, Clearwater, Pinellas, 8.07
33766, FL, Clearwater, Pinellas, 8.07
33767, FL, Clearwater Beach, Pinellas, 8.07
33769, FL, Clearwater, Pinellas, 8.07
34023, FL, Clearwater, Pinellas
34650, FL, Holiday
34659, FL, Tarpon Springs, Pasco
34660, FL, Ozona, Pinellas, 1.42
34629, FL, Clearwater, Pinellas
34677, FL, Oldsmar, Pinellas, 4.83
34680, FL, Elfers, Pasco, 9.74
34681, FL, Crystal Beach, Pinellas, 1.49
34682, FL, Palm Harbor, Pinellas, 0.35
34683, FL, Palm Harbor, Pinellas, 0
34684, FL, Palm Harbor, Pinellas, 1.87
34685, FL, Palm Harbor, Pinellas, 4.25
34688, FL, Tarpon Springs, Pinellas, 4.95
34689, FL, Tarpon Springs, Pinellas, 4.7
34690, FL, Tarpon Springs, Pasco, 8.05
34690, FL, Holiday, Pasco, 8.14
34691, FL, Tarpon Springs, Pasco, 7.7
34691, FL, Holiday, Pasco, 7.84
34695, FL, Safety Harbor, Pinellas, 6.16
34697, FL, Dunedin, Pinellas, 3.52
34698, FL, Dunedin, Pinellas, 3.73

Clearwater (169,359)

33516, Belleaire

33786, Belleaire Beach

34615, 23570, Clearwater

34616, 28341, Clearwater
34619, 16227, Clearwater
34620, 16887, Clearwater
34621, 17838, Clearwater
34622, 3398, Clearwater
34623, 17661, Clearwater
34624, 25768, Clearwater
34625, 10498, Clearwater
34630, 5404, Clearwater
34634, 3767, Belleair Beach

Clermont (31,267)

34711, FL, Clermont, Lake, 0
34712, FL, Clermont, Lake, 1.28
34713, FL, Clermont, Lake, 1.27
34729, FL, Ferndale, Lake, 6.84
34736, FL, Groveland, Lake, 6.82
34740, FL, Killarney, Orange, 6.87
34753, FL, Mascotte, Lake, 8.18
34755, FL, Minneola, Lake, 3.23
34756, FL, Montverde, Lake, 6.58
34760, FL, Oakland, Orange, 7.94

Clewiston (15,672)

33440, FL, Clewiston, Hendry, 0

Crawfordville (12,064)

32305, FL, Wakulla Springs, Wakulla, 3.44
32325, FL, Crawfordville, Wakulla
32326, FL, Crawfordville, Wakulla, 6.64
*32327, FL, Crawfordville, Wakulla, 0
32355, FL, Saint Marks, Wakulla, 4.24
32362, FL, Woodville, Leon, 7.96

Crescent City (11,535)

32112, FL, Crescent City, Putnam, 0
32139, FL, Georgetown, Putnam, 4.31
32157, FL, Lake Como, Putnam, 4.86
32181, FL, Pomona Park, Putnam, 6.86
32190, FL, Seville, Volusia, 6.23

Crestview (35,465)

32531, FL, Baker, Okaloosa, 3.2
32536, FL, Crestview, Okaloosa, 0
32537, FL, Milligan, Okaloosa, 4.74
32539, FL, Crestview, Okaloosa, 0.35
32538, FL, Paxton, Walton, 7.13
32567, FL, Laurel Hill, Okaloosa, 0
32563, FL, Harold, Santa Rosa, 3.89
32564, FL, Holt, Okaloosa, 0

Crystal River (17,801)

32623, Crystal River
32624, Crystal River
32629, Crystal River
34423, Crystal River

34428, 8226, Crystal River
34429, 9575, Crystal River
34443, Crystal River

Dade City (39,474)

33523, FL, Dade City, Pasco, 4.66
33523, FL, Ridge Manor, Pasco, 4.66
33525, FL, Dade City, Pasco, 0
33525, FL, Richland, Pasco, 3.9
33526, FL, Dade City, Pasco, 4.66
33537, FL, Lacoochee, Pasco, 6.24
33574, FL, Saint Leo, Pasco, 5.22
33576, FL, San Antonio, Pasco, 5.14
33593, FL, Trilby, Pasco, 5.01
34602, FL, Brooksville, Hernando, 7.07

Day (1,703)

32013, FL, Day, Lafayette, 0

Daytona Beach (156,863)

32017, FL, Holly Hill
32018, FL, Daytona Beach, Volusia
32019, FL, Port Orange, Volusia
32114, FL, Daytona Beach, Volusia, 3.67
32115, FL, Daytona Beach, Volusia, 4.24
32115, FL, Downtown, Volusia, 4.24
32116, FL, Daytona Beach, Volusia, 3.41
32117, FL, Daytona Beach, Volusia, 6.35
32117, FL, Holly Hill, Volusia, 6.35
32118, FL, Port Orange, Volusia, 4.3
32118, FL, Daytona Beach, Volusia, 4.33
32119, FL, Daytona Beach, Volusia, 0
32119, FL, Port Orange, Volusia, 0
32119, FL, South Daytona Beach, Volusia, 0.92
32120, FL, Daytona Beach, Volusia, 3.41
32121, FL, South Daytona, Volusia, 3.41
32121, FL, Daytona Beach, Volusia, 3.41
32122, FL, Daytona Beach, Volusia, 3.41
32123, FL, Daytona Beach, Volusia, 3.41
32124, FL, Port Orange, Volusia, 4.03
32124, FL, Daytona Beach, Volusia, 5.23
32125, FL, Daytona Beach, Volusia, 3.41
32126, FL, Daytona Beach, Volusia, 3.41
32127, FL, Port Orange, Volusia, 3.05
32127, FL, Daytona Beach, Volusia, 3.94
32129, FL, Port Orange, Volusia, 3.41
32175, FL, Ormond Beach, Volusia, 9.61
32198, FL, Daytona Beach, Volusia, 3.41

DeFuniak Springs (17,704)

32422, FL, Argyle, Walton, 4.42
*32433, FL, Defuniak Springs, Walton, 0
32435, FL, Defuniak Springs, Walton, 0.29

Deland (198,646)

32130, FL, De Leon Springs, Volusia, 6.7

32706, FL, Cassadaga, Volusia, 4.78
32713, FL, Debarry, Volusia, 3.75
32720, FL, De Land, Volusia, 0
32721, FL, De Land, Volusia, 9.35
32722, FL, De Land, Volusia, 9.58
32722, FL, Glenwood, Volusia, 4.24
32723, FL, De Land, Volusia
32724, FL, De Land, Volusia, 10
32725, FL, Deltona, Volusia, 0
32725, FL, Enterprise, Volusia, 0.28
32728, FL, Deltona, Volusia, 2.01
32738, FL, Deltona, Volusia, 3.33
32739, FL, Deltona, Volusia, 2.4
32744, FL, Lake Helen, Volusia, 5.98
32747, FL, Lake Monroe, Seminole, 6.77
32763, FL, Orange City, Volusia, 4.69
32764, FL, Osteen, Volusia, 7.25
32771, FL, Sanford, Seminole, 7.26
32771, FL, Lake Forest, Seminole, 7.66
32772, FL, Sanford, Seminole, 8.9
32773, FL, Sanford, Seminole, 9.37
32774, FL, Orange City, Volusia, 4.69

Destin (9662)

32451, FL, Destin, Okaloosa
32540, FL, Destin, Okaloosa, 9.19
32541, FL, Destin, Okaloosa, 9.24

Dunnellon (24,982)

32630, Dunnellon
34430, Dunnellon
34431, 6505, Dunnellon
34432, 10378, Dunnellon
34433, 3541, Dunnellon
34434, 4558, Dunnellon

Ebro (383)

32437, FL, Ebro, Washington, 0

Eustis (62,874)

32726, FL, Eustis, Lake, 0
32727, FL, Eustis, Lake, 3.26
32735, FL, Grand Island, Lake, 8.88
32736, FL, Eustis, Lake, 4.12
32756, FL, Mount Dora, Lake, 4.07
32757, FL, Mount Dora, Lake, 4.43
32776, FL, Mount Plymouth, Lake, 6.49
32776, FL, Sorrento, Lake, 7.46
32777, FL, Tangerine, Orange, 6.82
32784, FL, Dona Vista, Lake, 5.3
32784, FL, Umatilla, Lake, 5.48
32798, FL, Zellwood

Flagler Beach (6,396)

32036, FL, Flagler Beach
32136, FL, Flagler Beach, Flagler, 8.93

32151, FL, Flagler Beach, Flagler, 7.5

Fort Lauderdale (1,246,003)

33004, FL, Dania, Broward, 6.67
33019, FL, Hollywood, Broward, 9.05
33020, FL, Hollywood, Broward, 8.9
33021, FL, Pembroke Park, Broward, 8.28
33021, FL, Hollywood, Broward, 9.13
33022, FL, Hollywood, Broward, 9.28
33023, FL, Hollywood, Broward, 6.22
33023, FL, Pembroke Pines, Broward, 6.22
33023, FL, Pembroke Park, Broward, 6.22
33024, FL, Hollywood, Broward, 9.44
33060, FL, Pompano Beach, Broward, 6.65
33061, FL, Pompano Beach, Broward, 6.86
33062, FL, Pompano Beach, Broward, 7.64
33062, FL, Hillsboro Beach, Broward, 8.02
33063, FL, Margate, Broward, 9.34
33063, FL, Coconut Creek, Broward, 9.34
33063, FL, Pompano Beach, Broward, 9.34
33064, FL, Pompano Beach, Broward, 9.35
33064, FL, Lighthouse Point, Broward, 9.35
33065, FL, Margate, Broward, 9.95
33065, FL, Pompano Beach, Broward, 9.95
33066, FL, Margate, Broward, 7.04
33066, FL, Pompano Beach, Broward, 7.04
33066, FL, Coconut Creek, Broward, 7.56
33068, FL, North Lauderdale, Broward, 5.65
33068, FL, Margate, Broward, 5.65
33068, FL, Pompano Beach, Broward, 5.65
33069, FL, Pompano Beach, Broward, 6.22
33071, FL, Pompano Beach, Broward, 8.5
33071, FL, Coral Springs, Broward, 8.74
33072, FL, Pompano Beach, Broward, 7.91
33073, FL, Pompano Beach, Broward, 9.94
33074, FL, Lighthouse Point, Broward, 7.1
33074, FL, Pompano Beach, Broward, 7.1
33075, FL, Pompano Beach, Broward, 6.86
33077, FL, Pompano Beach, Broward, 6.86
33081, FL, Hollywood, Broward, 9.54
33082, FL, Pembroke Pines, Broward, 9.03
33083, FL, Hollywood, Broward, 7.95
33084, FL, Pembroke Pines, Broward, 7.95
33093, FL, Pompano Beach, Broward, 6.86
33097, FL, Pompano Beach, Broward, 6.86
33123, FL, Dania
33301, FL, Fort Lauderdale, Broward, 3.22
33302, FL, Fort Lauderdale, Broward, 7.68
33303, FL, Fort Lauderdale, Broward, 6.05
33304, FL, Oakland Park, Broward, 3.11
33304, FL, Fort Lauderdale, Broward, 3.41
33305, FL, Fort Lauderdale, Broward, 3.17
33305, FL, Lazy Lake, Broward, 3.18
33305, FL, Oakland Park, Broward, 3.18
33305, FL, Wilton Manors, Broward, 3.18
33306, FL, Fort Lauderdale, Broward, 3.94

33306, FL, Oakland Park, Broward, 3.94
 33307, FL, Fort Lauderdale, Broward, 2.15
 33308, FL, Fort Lauderdale, Broward, 2.98
 33308, FL, Lauderdale by the Sea, Broward, 5.04
 33308, FL, Oakland Park, Broward, 5.04
 33308, FL, Sea Ranch Lakes, Broward, 5.04
 33309, FL, Oakland Park, Broward, 2.03
 33309, FL, Lauderdale Lakes, Broward, 2.66
 33309, FL, Fort Lauderdale, Broward, 3.01
 33309, FL, Tamarac, Broward, 3.01
 33310, FL, Fort Lauderdale, Broward, 2.45
 33310, FL, Oakland Park, Broward, 3.21
 33311, FL, Fort Lauderdale, Broward, 0
 33311, FL, Lauderdale Lakes, Broward, 0.21
 33311, FL, Plantation, Broward, 0.21
 33311, FL, Wilton Manors, Broward, 0.21
 33311, FL, Oakland Park, Broward, 1.3
 33312, FL, Fort Lauderdale, Broward, 4.04
 33312, FL, Davie, Broward, 4.04
 33313, FL, Fort Lauderdale, Broward, 3.25
 33313, FL, Sunrise, Broward, 3.25
 33313, FL, Plantation, Broward, 3.25
 33313, FL, Lauderdale Lakes, Broward, 3.25
 33314, FL, Fort Lauderdale, Broward, 6.11
 33314, FL, Davie, Broward, 6.22
 33315, FL, Fort Lauderdale, Broward, 3.71
 33316, FL, Fort Lauderdale, Broward, 4.18
 33317, FL, Plantation, Broward, 3.84
 33317, FL, Fort Lauderdale, Broward, 3.97
 33317, FL, Davie, Broward, 5.37
 33318, FL, Fort Lauderdale, Broward, 5.19
 33319, FL, Fort Lauderdale, Broward, 4.28
 33319, FL, Tamarac, Broward, 4.4
 33319, FL, Lauderhill, Broward, 4.67
 33319, FL, Lauderdale Lakes, Broward, 4.67
 33319, FL, Sunrise, Broward, 4.67
 33320, FL, Fort Lauderdale, Broward, 2.15
 33320, FL, Tamarac, Broward, 2.15
 33321, FL, Fort Lauderdale, Broward, 7.14
 33321, FL, Tamarac, Broward, 7.31
 33322, FL, Sunrise, Broward, 6.11
 33322, FL, Plantation, Broward, 6.11
 33322, FL, Fort Lauderdale, Broward, 6.22
 33323, FL, Plantation, Broward, 8.14
 33323, FL, Fort Lauderdale, Broward, 8.31
 33323, FL, Sunrise, Broward, 9.02
 33324, FL, Plantation, Broward, 6.61
 33324, FL, Fort Lauderdale, Broward, 6.61
 33324, FL, Davie, Broward, 6.61
 33325, FL, Plantation, Broward, 9.53
 33325, FL, Fort Lauderdale, Broward, 9.53
 33325, FL, Sunrise, Broward, 9.53
 33325, FL, Davie, Broward, 9.7
 33328, FL, Davie, Broward, 8.16
 33328, FL, Fort Lauderdale, Broward, 8.16
 33328, FL, Cooper City, Broward, 8.77
 33329, FL, Davie, Broward, 2.15
 33329, FL, Fort Lauderdale, Broward, 2.46
 33334, FL, Oakland Park, Broward, 2.15
 33334, FL, Fort Lauderdale, Broward, 2.15
 33334, FL, Wilton Manors, Broward, 3.54
 33335, FL, Fort Lauderdale, Broward, 2.15
 33336, FL, Fort Lauderdale, Broward, 2.15
 33337, FL, Fort Lauderdale, Broward, 2.15
 33338, FL, Fort Lauderdale, Broward, 2.15
 33339, FL, Fort Lauderdale, Broward, 2.15
 33340, FL, Fort Lauderdale, Broward, 2.15
 33345, FL, Fort Lauderdale, Broward, 2.15
 33345, FL, Sunrise, Broward, 2.15
 33346, FL, Fort Lauderdale, Broward, 2.45
 33348, FL, Fort Lauderdale, Broward, 2.15
 33349, FL, Fort Lauderdale, Broward, 2.15
 33351, FL, Tamarac, Broward, 6.64
 33351, FL, Sunrise, Broward, 6.8
 33351, FL, Fort Lauderdale, Broward, 6.8
 33355, FL, Davie, Broward, 2.15
 33355, FL, Fort Lauderdale, Broward, 2.15
 33359, FL, Fort Lauderdale, Broward, 2.15
 33388, FL, Plantation, Broward, 5.48
 33388, FL, Fort Lauderdale, Broward, 5.48
 33394, FL, Fort Lauderdale, Broward, 3.3
 33029, FL, Hollywood, Broward, 8.13
 33029, FL, Miramar, Broward, 8.13
 33326, FL, Davie, Broward, 0
 33326, FL, Sunrise, Broward, 0.86
 33327, FL, Fort Lauderdale, Broward, 4.05
 33327, FL, Weston, Broward, 4.05
 33332, FL, Fort Lauderdale, Broward, 5.23
 33008, FL, Hallandale, Broward, 7.59
 33020, FL, Hollywood, Broward, 6.52
 33023, FL, Miramar, Broward, 3.54
 33023, FL, West Hollywood, Broward, 3.54
 33024, FL, Pembroke Pines, Broward, 0
 33026, FL, Pembroke Pines, Broward, 2.31
 33026, FL, Hollywood, Broward, 2.4
 33028, FL, Pembroke Pines, Broward, 4.76
 33028, FL, Hollywood, Broward, 5.42
 33029, FL, Pembroke Pines, Broward, 9.41
 33326, FL, Sunrise, Broward, 8.75
 33326, FL, Fort Lauderdale, Broward, 9.12
 33326, FL, Weston, Broward, 9.55
 33326, FL, Davie, Broward, 9.55
 33330, FL, Cooper City, Broward, 4.84
 33330, FL, Fort Lauderdale, Broward, 4.84
 33330, FL, Davie, Broward, 5.73
 33331, FL, Weston, Broward, 7.14
 33331, FL, Davie, Broward, 7.46
33331, FL, Fort Lauderdale, Broward, 7.46
 33332, FL, Davie, Broward, 9.83
 33332, FL, Weston, Broward, 9.83
 33357, FL, Sunrise, Broward

Fort McCoy (18,831)

32134,FL,Salt Springs,Marion, 0

*32134,FL,Fort McCoy,Marion, 8.71

32182,FL,Orange Springs,Marion, 8.42

Fort Meade (8,463)*33841,FL,Fort Meade,Polk, 0

33847,FL,Homeland,Polk, 5.88

Fort Meyers (334,059)

33901, FL, Fort Myers, Lee, 5.62

33902, FL, Fort Myers, Lee, 5.34

33903, FL, North Fort Myers, Lee, 6.47

33904, FL, Cape Coral, Lee, 0

33905, FL, Fort Myers, Lee, 6.29

33905, FL, Tice, Lee, 0

33906, FL, Fort Myers, Lee, 5.82

33907, FL, Fort Myers, Lee, 4.58

33908, FL, Fort Myers, Lee, 6.54

33909, FL, Cape Coral, Lee, 5.46

33910, FL, Cape Coral, Lee, 5.5

33911, FL, Fort Myers, Lee, 3.26

33912, FL, Fort Myers, Lee, 9.58

33914, FL, Cape Coral, Lee, 3.42

33915, FL, Cape Coral, Lee, 5.71

33916, FL, Fort Myers, Lee, 7.4

33917, FL, North Fort Myers, Lee, 9.56

33918, FL, North Fort Myers, Lee, 6.59

33919, FL, Fort Myers, Lee, 3.96

33936,FL,Lehigh Acres, Lee, 0

33956, FL, Saint James City, Lee, 9.91

33965, FL, Fort Myers, Lee, 5.69

33990, FL, Cape Coral, Lee, 2.23

33991, FL, Cape Coral, Lee, 3.93

33993, FL, Cape Coral, Lee, 6.64

33994, FL, Fort Myers, Lee, 6.64

33920, FL, Alva, Lee, 8.99

33970, FL, Lehigh Acres, Lee, 8.35

33971, FL, Lehigh Acres, Lee, 7.26

33972,FL,Lehigh Acres, Lee, 1.36

33913,FL,Fort Myers, Lee, 0

Fort Meyers Beach (21,920)

33928,FL,Estero, Lee, 8.64

33931,FL,Fort Myers Beach, Lee, 0

33932,FL,Fort Myers Beach, Lee, 0.36

33957,FL,Sanibel, Lee, 9.54

Fort Pierce (71,382)

33449, FL, Fort Pierce, Saint Lucie

33450, FL, Fort Pierce, Saint Lucie

34942, FL, Fort Pierce, Saint Lucie

34945, FL, Fort Pierce, Saint Lucie, 6.71

34946, FL, Fort Pierce, Saint Lucie, 2.95

34947, FL, Fort Pierce, Saint Lucie, 1.83

34949, FL, Fort Pierce, Saint Lucie, 3.23

34949, FL, Hutchinson Island, Saint Lucie, 3.59

34950, FL, Fort Pierce, Saint Lucie, 0

34951, FL, Fort Pierce, Saint Lucie, 7.38

34954, FL, Fort Pierce, Saint Lucie, 1.27

34979, FL, Fort Pierce, Saint Lucie, 1.27

34987, FL, Fort Pierce, Saint Lucie, 1.11

Fort Walton Beach (102,888)

32542, FL, Duke Field Afs, Okaloosa, 5.25

32542, FL, Eglin AFB, Okaloosa, 5.51

32545, FL, Fort Walton Beach, Okaloosa

32547, FL, Fort Walton Beach, Okaloosa, 0

32548, FL, Fort Walton Beach, Okaloosa, 2.48

32549, FL, Fort Walton Beach, Okaloosa, 2.46

32569, FL, Mary Esther, Okaloosa, 6.05

32579, FL, Shalimar, Okaloosa, 3.11

32580, FL, Valparaiso, Okaloosa, 8.61

Frostproof (9,219)33843,FL,Frostproof,Polk, 0**Gainesville (156,741)**32601, FL, Gainesville, Alachua, 0

32602, FL, Gainesville, Alachua, 8.48

32603, FL, Gainesville, Alachua, 2.41

32604, FL, Gainesville, Alachua, 2.13

32605, FL, Gainesville, Alachua, 4.33

32606, FL, Gainesville, Alachua, 6.89

32607, FL, Gainesville, Alachua, 6.43

32608, FL, Gainesville, Alachua, 6.24

32609, FL, Gainesville, Alachua, 3.09

32610, FL, Gainesville, Alachua, 2.42

32611, FL, Gainesville, Alachua, 2.42

32612, FL, Gainesville, Alachua, 2.55

32613, FL, Gainesville, Alachua, 1.45

32614, FL, Gainesville, Alachua, 4.69

32627, FL, Gainesville, Alachua, 2.42

32635, FL, Gainesville, Alachua, 1.01

32641, FL, Gainesville, Alachua, 1

32653, FL, Gainesville, Alachua, 1.46

Geneva (4,607)32732, 3827, 4607, Geneva**Graceville (6,131)**

32426,FL,Campbellton,Jackson, 6.88

32440,FL,Graceville,Jackson, 0

32452,FL,Noma,Holmes, 6.32

Greenville (4,150)32331,FL,Greenville,Madison, 0**Gulf Breeze (25,261)**

32566, FL, Gulf Breeze, Santa Rosa

32566,FL,Navarre,Santa Rosa, 0
*32566,FL,Gulf Breeze,Santa Rosa, 0
32561,FL,Gulf Breeze,Santa Rosa, 0
32561,FL,Pensacola Beach,Santa Rosa, 4.97

Haines City (35,711)

33836,FL,Davenport,Polk, 4.28
33837,FL,Davenport,Polk, 6.9
33844,FL,Haines City,Polk, 0
33845,FL,Haines City,Polk, 1.21
34759,FL,Poinciana,Polk, 9.36

Hastings (4,249)

32033,FL,Elkton,Saint Johns, 7.5
32145,FL,Hastings,Saint Johns, 0

Havana (10,194)

32333,FL,Havana,Gadsden, 0

Hawthorne (4,662)

*32640,FL,Hawthorne,Alachua, 0
32640,FL,Cross Creek,Alachua, 2.58
32654,FL,Island Grove,Alachua, 7.32
32662,FL,Lochloosa,Alachua, 3.14

Hernando (18,482)

34442, 9581, Hernando
34464, Beverly Hills
34465, 8901, Beverly Hills

Hilliard (7,261)

32046,FL,Hilliard,Nassau, 0

Homestead (11,231)

33034, FL, Homestead, Miami-Dade, 0
33034, FL, Florida City, Miami-Dade, 0
33034, FL, Flamingo Lodge, Miami-Dade, 1.02
33035, FL, Homestead, Miami-Dade, 2.1
33090, FL, Homestead, Miami-Dade, 4.67

Homosassa (25,887)

32646, Homosassa
32647, Homosassa
32661, Homosassa
32665 Lecanto
32687, Homosassa
34446, 9438, Homosassa
34448, 8827, Homosassa
34461, 7622, Lecanto
34445, Holder
34447, Homosassa Springs
34460, Lecanto

Horseshoe Beach (677)

32648,FL,Horseshoe Beach,Dixie, 0

Hosford (1,603)

*32334,FL,Hosford.Liberty, 0
32360,FL,Telogia,Liberty, 9.55

Howey in the Hills (1,629)

34737, FL, Howey in the Hills, Lake, 9.02

Hurlburt Field (952)

32544,FL,Hurlburt Field,Okaloosa, 0.37

Immokalee (18,939)

33934, 18939, Immokalee
34142, Immokalee

Indiantown (8,567)

34956,FL,Indiantown,Martin, 0

Inglis (3,981)

34449, Inglis
32639, Gulf Hammock
32649, Inglis
32683, Otter Creek
32639, FL, Gulf Hammock
32698, Yankeetown
34498, Yankeetown

Interlachen (24,652)

32138, FL, Grandin, Putnam, 6.03
32140, FL, Florahome, Putnam, 8.36
*32148, FL, Interlachen, Putnam, 0
32149, FL, Interlachen, Putnam, 1.72
32149, FL, Edgar, Putnam, 1.72
32185, FL, Putnam Hall, Putnam, 7.39
32666, FL, Melrose, Putnam, 9.51

Inverness (34,313)

32636, Floral City
32650, Inverness
32651, Inverness
32652, Inverness
34436, 7722, Floral City
34450, 9860, Inverness
34452, 9489, Inverness
34453, 7242, Inverness

Islamorada (11,208)

33036,FL,Islamorada,Monroe, 8.14
33070,FL,Tavernier,Monroe, 0

Jacksonville (429,571)

32202, FL, Jacksonville, Duval, 6.46
32203, FL, Jacksonville, Duval, 7.79
32204, FL, Jacksonville, Duval, 7.96
32206, FL, Jacksonville, Duval, 7.05
32207, FL, Jacksonville, Duval, 4.58
32209, FL, Jacksonville, Duval, 9.67

32211, FL, Jacksonville, Duval, 4.3
 32212, FL, Jacksonville, Duval, 9.59
 32214, FL, Jacksonville, Duval, 9.25
 32216, FL, Jacksonville, Duval, 0
 32217, FL, Jacksonville, Duval, 6.22
 32223, FL, Jacksonville, Duval, 9.94
 32224, FL, Jacksonville, Duval, 5.35
 32225, FL, Jacksonville, Duval, 5.32
 32229, FL, Jacksonville, Duval, 8.63
 32230, FL, Jacksonville, Duval, 9.11
 32231, FL, Jacksonville, Duval, 6.96
 32232, FL, Jacksonville, Duval, 6.96
 32233, FL, Atlantic Beach, Duval, 5.14
 32233, FL, Jacksonville, Duval, 5.14
 32235, FL, Jacksonville, Duval, 6.96
 32236, FL, Jacksonville, Duval, 6.96
 32237, FL, Jacksonville, Duval, 6.96
 32238, FL, Jacksonville, Duval, 6.96
 32239, FL, Jacksonville, Duval, 6.96
 32240, FL, Jacksonville, Duval, 8.57
 32240, FL, Jacksonville Beach, Duval, 8.57
 32241, FL, Jacksonville, Duval, 6.41
 32245, FL, Jacksonville, Duval, 2.74
 32246, FL, Jacksonville, Duval, 2.7
 32247, FL, Jacksonville, Duval, 4.9
 32250, FL, Jacksonville Beach, Duval, 8.21
 32250, FL, Jacksonville, Duval, 8.21
 32255, FL, Jacksonville, Duval, 6.96
 32256, FL, Jacksonville, Duval, 5.74
 32257, FL, Jacksonville, Duval, 7.27
 32258, FL, Jacksonville, Duval, 9.8
 32260, FL, Jacksonville, Saint Johns, 6.96
 32266, FL, Neptune Beach, Duval, 8.54
 32266, FL, Jacksonville, Duval, 9
 32276, FL, Jacksonville, Duval, 6.18
 32277, FL, Jacksonville, Duval, 5.34
32227, FL, Jacksonville, Duval, 0
 32227, FL, Jacksonville Beach, Duval, 0
 32227, FL, Mayport, Duval, 0
 32228, FL, Jacksonville, Duval, 1.04
 32228, FL, Mayport Naval Station, Duval, 1.04
 32267, FL, Jacksonville, Duval, 0.34
 32283, FL, Atlantic Beach

Jacksonville (303,679)

32009, FL, Bryceville, Nassau, 9.68
 32065, FL, Orange Park, Clay, 8.92
 32073, FL, Orange Park, Clay, 7.69
 32099, FL, Jacksonville, Duval, 7.27
 32201, FL, Jacksonville, Duval, 1.17
 32205, FL, Jacksonville, Duval, 4.03
32208, FL, Jacksonville, Duval, 9.65
 32210, FL, Jacksonville, Duval, 0
 32215, FL, Jacksonville, Duval, 8.26
 32215, FL, Cecil Field NAS, Duval, 8.26
 32220, FL, Jacksonville, Duval, 6.1

32221, FL, Jacksonville, Duval, 4.41
 32222, FL, Jacksonville, Duval, 4.78
 32244, FL, Jacksonville, Duval, 2.67
 32254, FL, Jacksonville, Duval, 5.17

Jacksonville (48,494)

32218,FL,Jacksonville,Duval, 0
 32219,FL,Jacksonville,Duval, 8.87
 32219,FL,Dinsmore,Duval, 8.87
 32226,FL,Jacksonville,Duval, 6.88

Jacksonville (24,181))

32030, FL, Doctors Inlet, Clay, 6.22
 32043, FL, Green Cove Springs, Clay, 10
 32050, FL, Middleburg, Clay, 0.85
 32067, FL, Orange Park, Clay, 5.98
 32068, FL, Middleburg, Clay, 0
 32079, FL, Penney Farms, Clay, 8.34
32234, FL, Jacksonville, Duval, 8.35
 32234, FL, Baldwin, Duval, 8.35

Jacksonville (8,242)

32259,FL,Jacksonville,Saint Johns, 0

Jasper (6,755)

32052,FL,Jasper,Hamilton, 0

Jay (5,881)

32565,FL,Jay,Santa Rosa, 0

Jennings (3,828)

32053,FL,Jennings,Hamilton, 0
 32350,FL,Pinetta,Madison, 6.14

Jupiter (52,881)

33458,FL,Jupiter,Palm Beach, 0
 33468,FL,Jupiter,Palm Beach, 0.35
 33469,FL,Tequesta,Palm Beach, 3.74
33469,FL,Jupiter,Palm Beach, 3.74
 33478,FL,Jupiter,Palm Beach, 6.21

Kathleen (1,063)

33849,FL,Kathleen,Polk, 0

Kenansville (808)

34739,FL,Kenansville,Osceola, 0

Kennedy Space Center (3)

32815,FL,Orlando,Brevard, 0
 32815,FL,Kennedy Space Center,Brevard, 0

Key Largo (12,901)

33037,FL,Ocean Reef,Monroe, 0
33037,FL,Key Largo,Monroe, 0.27

Key West (37,386)

33040, FL, Key West, Monroe, 0

33040, FL, Key West NAS, Monroe, 9.27

33040, FL, East Rockland Key, Monroe, 9.27

33040, FL, Stock Island, Monroe, 9.27

33042, FL, Summerland Key, Monroe, 9.91

33042, FL, Sugarloaf, Monroe, 9.91

33044, FL, Sugarloaf Shores, Monroe, 5.76

33046, FL, Key West, Monroe

33452, FL, Key West, Monroe

Keystone Heights (9,468)

32160, FL, Lake Geneva, Clay, 2.16

*32656, FL, Keystone Heights, Clay, 0

Kinard (312)

32449, FL, Kinard, Calhoun, 0

Kissimmee (156,122)

32821, FL, Orlando, Orange, 5.91

32824, FL, Orlando, Orange, 7.51

32836, FL, Orlando, Orange, 9.63

32837, FL, Orlando, Orange, 5.83

33848, FL, Intercession City, Osceola, 6.25

33858, FL, Loughman, Polk, 9.93

34741, FL, Kissimmee, Osceola, 0

34742, FL, Kissimmee, Osceola, 4.31

34743, FL, Buena Ventura Lakes, Osceola, 4.11

34743, FL, Kissimmee, Osceola, 4.46

34744, FL, Kissimmee, Osceola, 4.47

34745, FL, Kissimmee, Osceola, 0.72

34746, FL, Kissimmee, Osceola, 4.17

34758, FL, Kissimmee, Osceola, 8.39

34758, FL, Poinciana, Osceola, 8.39

34769, FL, Saint Cloud, Osceola, 8.72

Kissimmee (2,903)

34759, FL, Kissimmee, Polk, 0

Labelle (12,580)

33930, FL, Felda, Hendry, 6.63

*33935, FL, Labelle, Hendry, 0

33975, FL, La Belle, Hendry, 0.45

Lake Butler (11,835)

32038, FL, Fort White, Columbia, 0.25

32054, FL, Lake Butler, Union, 0

32083, FL, Raiford, Union, 9.93

32622, FL, Brooker, Bradford, 7.3

32697, FL, Worthington Springs, Union, 7.96

Lake City (42,698)

32024, FL, Lake City, Columbia, 0.36

32025, FL, Lake City, Columbia, 0.22

32055, FL, Lake City, Columbia, 0

32056, FL, Lake City, Columbia, 0.35

Lake Mary (15,537)

32746, FL, Lake Mary, Seminole, 0

32746, FL, Heathrow, Seminole, 0

32795, FL, Lake Mary, Seminole, 0.72

Lake Placid (14,989)

*33852, FL, Lake Placid, Highlands, 0

33862, FL, Lake Placid, Highlands, 0.51

Lake Wales (40,280)

33827, FL, Babson Park, Polk, 4.85

33838, FL, Dundee, Polk, 9.69

33853, FL, Lake Wales, Polk, 0

33854, FL, Lake Wales, Polk, 3.08

33854, FL, Fedhaven, Polk, 8.11

33856, FL, Nalcrest, Polk, 7.37

33856, FL, Lake Wales, Polk, 7.37

33867, FL, River Ranch, Polk, 2.26

33877, FL, Waverly, Polk, 7.31

Lakeland (208,050)

33564, FL, Plant City, Hillsborough, 9.48

33801, FL, Lakeland, Polk, 0

33802, FL, Lakeland, Polk, 1.69

33803, FL, Lakeland, Polk, 3.29

33804, FL, Lakeland, Polk, 2.86

33805, FL, Lakeland, Polk, 4.04

33806, FL, Lakeland, Polk, 1.09

33807, FL, Lakeland, Polk, 4.6

33807, FL, Southside, Polk, 6.58

33809, FL, Lakeland, Polk, 6.45

33810, FL, Lakeland, Polk, 1.05

33811, FL, Lakeland, Polk, 5.38

33811, FL, Southside, Polk, 6.42

33813, FL, Southside, Polk, 4.87

33813, FL, Lakeland, Polk, 5.26

33815, FL, Lakeland, Polk, 1.05

33823, FL, Auburndale, Polk, 8.83

33840, FL, Eaton Park, Polk, 3.35

33846, FL, Highland City, Polk, 6.43

Lamont (1,375)

*32336, FL, Lamont, Jefferson, 0

32361, FL, Wacissa, Jefferson, 4.88

Largo (155,308)

34635, 3595, Indian Rocks Beach

34640, 22302, Largo

34641, 25343, Largo

34642, 24462, Seminole

34643, 18828, Largo

34644, 19189, Largo

34646, 11640, Seminole

34647, 15351, Largo
34648, 14598, Largo
34649, Largo
33785, Indian Rocks Beach

Lee (1,245)
32059,FL,Lee,Madison, 0

Leesburg (84,776)
32158, FL, Lady Lake, Lake, 8.81
32159, FL, Lady Lake, Lake, 8.16
32159, FL, The Villages, Lake, 8.74
32778, FL, Deer Island, Lake, 9.01
32778, FL, Tavares, Lake, 9.64
34731, FL, Fruitland Park, Lake, 4.19
34748, FL, Leesburg, Lake, 0
34749, FL, Leesburg, Lake, 0.46
34762, FL, Okahumpka, Lake, 3.9
34788, FL, Haines Creek, Lake, 7.27
34788, FL, Leesburg, Lake, 7.99
34789, FL, Leesburg, Lake, 0.17
34797, FL, Yalaha, Lake, 6

Lithia (7,639)
33547,FL,Lithia,Hillsborough, 0

Live Oak (25,237)
32060,FL,Live Oak,Suwannee, 0
32062,FL,McAlpin,Suwannee, 0.39
32064,FL,Live Oak,Suwannee, 0.28
32094,FL,Wellborn,Suwannee, 0
32692, Suwannee

Lorida (1,122)
33857,FL,Lorida,Highlands, 0

Loxahatchee (8,593)
33470, Loxahatchee

Maccleddy (17,439)
32040,FL,Glen Saint Mary,Baker, 2.15
32063,FL,Maccleddy,Baker, 0

Madison (11,928)
*32340,FL,Madison,Madison, 0
32341,FL,Madison,Madison, 0.24

Malone (2,914)
32423,FL,Bascom,Jackson, 5.58
32445,FL,Malone,Jackson, 0
33865,FL,Ona,Hardee, 0

Marathon (13,310)
*33050, FL, Marathon, Monroe, 0
33050, FL, Conch Key, Monroe, 4.23
33050, FL, Duck Key, Monroe, 4.23

33050, FL, Grassy Key, Monroe, 4.23
33051, FL, Key Colony Beach, Monroe, 2.81
33051, FL, Marathon, Monroe, 2.81
33052, FL, Marathon Shores, Monroe, 5.12
33053, FL, Marathon Shores, Monroe
33001, FL, Layton
33001, FL, Long Key
33450, FL, Marathon

Marco Island (11,645)
33933, Goodland
33937, 11645, Marco Island
33969, Marco
34140, Goodland
34145, Marco Island

Marianna (24,217)
32431, FL, Cottondale, Jackson, 8.54
32443, FL, Greenwood, Jackson, 7.33
32446, FL, Marianna, Jackson, 0
32447, FL, Marianna, Jackson, 0.22
32448, FL, Marianna, Jackson, 0.22

Mayo (3,548)
32066,FL,Mayo,Lafayette, 0

McDavid (3,232)
32568,FL,Walnut Hill,Escambia, 0
32568,FL,McDavid,Escambia, 0

Melbourne (195,561)
32396, FL, Melbourne, Brevard
32901, FL, Melbourne, Brevard, 4.79
32902, FL, Melbourne, Brevard, 9.86
32903, FL, Melbourne, Brevard, 5.24
32903, FL, Indialantic, Brevard, 5.24
32904, FL, Melbourne, Brevard, 4.82
32904, FL, West Melbourne, Brevard, 4.82
32905, FL, Melbourne, Brevard, 8.46
32906, FL, Palm Bay, Brevard, 7.3
32906, FL, Melbourne, Brevard, 9.2
32907, FL, Palm Bay, Brevard, 8.56
32907, FL, Melbourne, Brevard, 8.6
32910, FL, Palm Bay, Brevard, 9.99
32911, FL, Palm Bay, Brevard, 8.43
32912, FL, Melbourne, Brevard, 5.41
32919, FL, Melbourne, Brevard, 2.03
32925, FL, Patrick AFB, Brevard, 6.64
32934, FL, Melbourne, Brevard, 2.13
32934, FL, Eau Gallie, Brevard, 2.65
32935, FL, Melbourne, Brevard, 0
32936, FL, Melbourne, Brevard, 2.03
32937, FL, Indian Harbor Beach, Brevard, 4.31
32937, FL, Melbourne, Brevard, 4.35
32937, FL, Satellite Beach, Brevard, 4.36
32940, FL, Melbourne, Brevard, 6.26

32941, FL, Melbourne, Brevard, 2.03

Merritt Island (123,655)

32920, FL, Port Canaveral, Brevard, 6.12
32920, FL, Cape Canaveral, Brevard, 6.14
32922, FL, Cocoa, Brevard, 3.58
32923, FL, Cocoa, Brevard, 3.19
32924, FL, Cocoa, Brevard, 3.19
32926, FL, West Cocoa, Brevard, 5.21
32926, FL, Cocoa, Brevard, 5.24
32930, FL, Cocoa Beach, Brevard
32931, FL, Cocoa Beach, Brevard, 7.46
32932, FL, Cocoa Beach, Brevard, 7.94
32945, FL, Merritt Island, Brevard
32952, FL, Merritt Island, Brevard, 4.16
32953, FL, Merritt Island, Brevard, 0
32954, FL, Merritt Island, Brevard, 6.61
32955, FL, Viera, Brevard, 6.06
32955, FL, Rockledge, Brevard, 7.78
32956, FL, Rockledge, Brevard, 5.71

Miami (1,535,935)

33002, FL, Hialeah, Miami-Dade, 0.3
33010, FL, Hialeah, Miami-Dade, 2.66
33010, FL, Miami, Miami-Dade, 2.66
33011, FL, Hialeah, Miami-Dade, 2.98
33012, FL, Hialeah, Miami-Dade, 0
33013, FL, Hialeah, Miami-Dade, 1.77
33014, FL, Miami Lakes, Miami-Dade, 2.47
33014, FL, Miami, Miami-Dade, 2.47
33014, FL, Hialeah, Miami-Dade, 2.63
33015, FL, Hialeah, Miami-Dade, 5.24
33016, FL, Hialeah Gardens, Miami-Dade, 3.12
33016, FL, Miami Lakes, Miami-Dade, 3.12
33016, FL, Hialeah, Miami-Dade, 4.38
33017, FL, Hialeah, Miami-Dade, 0.3
33018, FL, Hialeah, Miami-Dade, 0.3
33025, FL, Pembroke Pines, Broward, 8.78
33025, FL, Hollywood, Broward, 8.78
33025, FL, Miramar, Broward, 8.95
33027, FL, Miramar, Broward, 8.02
33027, FL, Hollywood, Broward, 8.45
33027, FL, Pembroke Pines, Broward, 8.71
33054, FL, Opa Locka, Miami-Dade, 4.64
33055, FL, Carol City, Miami-Dade, 5.54
33055, FL, Opa Locka, Miami-Dade, 5.74
33056, FL, Carol City, Miami-Dade, 6.53
33056, FL, Opa Locka, Miami-Dade, 6.59
33100, FL, North Miami, Dade
33101, FL, Miami, Miami-Dade, 8.67
33102, FL, Miami, Miami-Dade, 8.29
33107, FL, Miami, Miami-Dade, 8.29
33110, FL, Miami, Miami-Dade, 8.29
33111, FL, Miami, Miami-Dade, 8.29
33114, FL, Coral Gables, Miami-Dade, 8.29

33114, FL, Miami, Miami-Dade, 8.29
33121, FL, Miami, Miami-Dade, 8.29
33122, FL, Miami, Miami-Dade, 4.58
33125, FL, Miami, Miami-Dade, 6.96
33126, FL, Miami, Miami-Dade, 6.16
33127, FL, Miami, Miami-Dade, 6.81
33128, FL, Miami, Miami-Dade, 8.47
33129, FL, Miami, Miami-Dade, 9.55
33130, FL, Miami, Miami-Dade, 8.88
33131, FL, Miami, Miami-Dade, 9.62
33132, FL, Miami, Miami-Dade, 8.74
33133, FL, Coconut Grove, Miami-Dade, 9.98
33133, FL, Coral Gables, Miami-Dade, 9.98
33134, FL, Coral Gables, Miami-Dade, 7.9
33134, FL, Coconut Grove, Miami-Dade, 7.9
33134, FL, Miami, Miami-Dade, 8
33135, FL, Miami, Miami-Dade, 7.89
33136, FL, Miami, Miami-Dade, 8.09
33137, FL, Miami, Miami-Dade, 7.67
33138, FL, El Portal, Miami-Dade, 7.22
33138, FL, Miami, Miami-Dade, 7.35
33138, FL, Miami Shores, Miami-Dade, 7.35
33139, FL, Miami Beach, Miami-Dade, 7.66
33141, FL, Miami Beach, Miami-Dade, 9.93
33141, FL, Miami, Miami-Dade, 9.93
33141, FL, North Bay Village, Miami-Dade, 9.93
33142, FL, Miami, Miami-Dade, 5.39
33144, FL, Miami, Miami-Dade, 7.14
33144, FL, West Miami, Miami-Dade, 7.15
33145, FL, Coral Gables, Miami-Dade, 8.72
33145, FL, Miami, Miami-Dade, 8.81
33147, FL, Miami, Miami-Dade, 4.06
33148, FL, Miami, Miami-Dade, 8.29
33150, FL, Miami, Miami-Dade, 5.81
33150, FL, El Portal, Miami-Dade, 5.81
33150, FL, Miami Shores, Miami-Dade, 6.14
33151, FL, Miami, Miami-Dade, 6.04
33152, FL, Miami, Miami-Dade, 4.84
33153, FL, Miami, Miami-Dade, 6.58
33155, FL, Miami, Miami-Dade, 8.84
33159, FL, Miami, Miami-Dade, 5.16
33160, FL, Miami, Miami-Dade, 9.04
33160, FL, Aventura, Miami-Dade, 9.13
33160, FL, Golden Beach, Miami-Dade, 9.13
33160, FL, North Miami Beach, Miami-Dade, 9.13
33161, FL, North Miami, Miami-Dade, 7.48
33161, FL, Miami, Miami-Dade, 7.48
33161, FL, Biscayne Park, Miami-Dade, 7.62
33162, FL, North Miami Beach, Miami-Dade, 8.59
33162, FL, Uleta, Miami-Dade, 8.59
33162, FL, Miami, Miami-Dade, 8.64
33163, FL, Miami, Miami-Dade, 8.29
33164, FL, Miami, Miami-Dade, 8.29
33165, FL, Miami, Miami-Dade, 9.59
33165, FL, Olympia Heights, Miami-Dade, 9.81
33166, FL, Virginia Gardens, Miami-Dade, 3

33166, FL, Miami, Miami-Dade, 3.12
 33166, FL, Miami Springs, Miami-Dade, 3.12
 33166, FL, Medley, Miami-Dade, 3.12
 33167, FL, Miami, Miami-Dade, 4.14
 33167, FL, North Miami, Miami-Dade, 4.98
 33168, FL, North Miami, Miami-Dade, 5.85
 33168, FL, Miami, Miami-Dade, 5.96
 33168, FL, Miami Shores, Miami-Dade, 6.1
 33169, FL, Miami, Miami-Dade, 7.48
 33169, FL, North Miami Beach, Miami-Dade, 7.48
 33172, FL, Miami, Miami-Dade, 6.94
 33174, FL, Miami, Miami-Dade, 7.9
 33178, FL, Miami, Miami-Dade, 7.35
 33178, FL, Medley, Miami-Dade, 7.35
 33179, FL, Miami, Miami-Dade, 9.84
 33179, FL, North Miami Beach, Miami-Dade, 9.84
 33180, FL, Aventura, Miami-Dade, 7.92
 33180, FL, Miami, Miami-Dade, 8.02
 33181, FL, North Miami, Miami-Dade, 8.93
 33181, FL, Miami, Miami-Dade, 9.12
 33182, FL, Miami, Miami-Dade, 9.6
 33184, FL, Miami, Miami-Dade, 9.92
 33188, FL, Miami, Miami-Dade, 5.23
 33192, FL, Miami, Miami-Dade, 4.95
 33194, FL, Miami, Miami-Dade, 4.95
 33195, FL, Miami, Miami-Dade, 8.29
 33199, FL, Miami, Miami-Dade, 8.79
 33231, FL, Miami, Miami-Dade, 9.11
 33233, FL, Miami, Miami-Dade, 8.29
 33234, FL, Miami, Miami-Dade, 8.29
 33238, FL, Miami, Miami-Dade, 8.29
 33239, FL, Miami, Miami-Dade, 8.29
 33242, FL, Miami, Miami-Dade, 8.29
 33243, FL, South Miami, Miami-Dade, 8.29
 33243, FL, Miami, Miami-Dade, 8.29
 33245, FL, Miami, Miami-Dade, 8.14
 33247, FL, Miami, Miami-Dade, 8.29
 33255, FL, Miami, Miami-Dade, 9.12
 33255, FL, Ludlam, Miami-Dade, 9.12
 33257, FL, Perrine, Miami-Dade, 8.29
 33257, FL, Miami, Miami-Dade, 8.29
 33261, FL, Miami, Miami-Dade, 8.29
 33265, FL, Miami, Miami-Dade, 8.29
 33266, FL, Miami, Miami-Dade, 8.29
 33269, FL, Miami, Miami-Dade, 8.29
 33280, FL, Miami, Miami-Dade, 8.29
 33283, FL, Miami, Miami-Dade, 8.29
 33296, FL, Miami, Miami-Dade, 8.29
 33299, FL, Miami, Miami-Dade, 8.29
 33109, FL, Miami, Miami-Dade, 7.73
 33109, FL, Miami Beach, Miami-Dade, 7.73
 33119, FL, Miami, Miami-Dade, 7.73
 33140, FL, Miami, Miami-Dade, 5.58
 33154, FL, Bal Harbour, Miami-Dade, 0
 33154, FL, Surfside, Miami-Dade, 0
 33154, FL, Miami, Miami-Dade, 0

33154, FL, Bay Harbor Islands, Miami-Dade, 0
 33154, FL, Indian Creek, Miami-Dade, 0.82

Miami (23,372)

33124, FL, Miami, Miami-Dade, 2.27
 33146, FL, Coconut Grove, Miami-Dade, 0
 33146, FL, Coral Gables, Miami-Dade, 0
33146, FL, South Miami, Miami-Dade, 0
 33146, FL, University of Miami, Miami-Dade, 0
 33146, FL, Miami, Miami-Dade, 0.06
 33149, FL, Key Biscayne, Miami-Dade, 5.91
 33149, FL, Miami, Miami-Dade, 6.91

Miami (35,304)

33009, FL, Hallandale

Milton (63,000)

32483, FL, Milton, Santa Rosa
 32530, FL, Bagdad, Santa Rosa, 1.54
32570, FL, Milton, Santa Rosa, 0
 32571, FL, Pace, Santa Rosa, 6.91
 32571, FL, Milton, Santa Rosa, 6.91
 32572, FL, Milton, Santa Rosa, 0.2
 32583, FL, Milton, Santa Rosa, 3.47
 32585, FL, Milton, Santa Rosa

Monticello (10,098)

*32344, FL, Monticello, Jefferson, 0
 32345, FL, Monticello, Jefferson, 0.34

Moore Haven (4,625)

33471, FL, Moore Haven, Glades, 0

Mulberry (14,365)

33835, FL, Bradley, Polk, 9.51
*33860, FL, Mulberry, Polk, 0

Myakka City (1,814)

*34251, FL, Myakka City, Manatee, 0
 34277, FL, Sarasota, Sarasota, 7.94

Naples (104,885)

33939, Naples
 33940, 23879, Naples
 33941, Naples
 33942, 28625, Naples
 33963, 18016, Naples
 33964, 8531, Naples
33999, 25834, Naples
 34101, FL, Naples,
 34102, FL, Naples,
 34103, FL, Naples,
 34104, FL, Naples,
 34105, FL, Naples,
 34106, FL, Naples,
 34108, FL, Naples,

34109,FL,Naples,
34110,FL,Naples,
34112,FL,Naples,
34113,FL,Naples,
34114,FL,Naples,
34116,FL,Naples,
34117,FL,Naples,
34119,FL,Naples,
34120,FL,Naples,

Naples (42,283)

33961, 8103, NAPLES
33962, 34180, NAPLES

New Smyrna Beach (50,824)

32018, FL, New Smyrna Beach
32032, FL, Edgewater, Volusia
32069, FL, New Smyrna Beach
32070, FL, New Smyrna Beach
32132, FL, Edgewater, Volusia, 6.68
32141, FL, Edgewater, Volusia, 8.28
32165, FL, New Smyrna
32167, FL, New Smyrna Beach, Volusia
32168, FL, New Smyrna Beach, Volusia, 0
32169, FL, New Smyrna Beach, Volusia, 8.31
32170, FL, New Smyrna Beach, Volusia, 6.33
32441, FL, Edgewater, Volusia

Niceville (29,582)

*32578,FL,Niceville,Okaloosa, 0
32588,FL,Niceville,Okaloosa, 1.7

North Port (18,533)

34271, FL, Sarasota
34286, FL, North Port, Sarasota, 7.53
34287, FL, North Port, Sarasota, 8.24

Oak Hill (2,534)

32753, FL, Scottsmeer, Brevard
*32759,FL,Oak Hill,Volusia, 0
32775,FL,Scottsmeer,Brevard, 6.87

Ocala (151,721)

32133, FL, Eastlake Weir, Marion, 2.34
32179, FL, Ocklawaha, Marion, 0
32179, FL, Ocklawaha, Marion, 0
32183, FL, Ocklawaha, Marion, 3.18
32195, FL, Weirsdale, Marion, 4.93
32620, FL, Belleview, Marion
32670, FL, Ocala
32671, FL, Ocala
32673, FL, Ocala
32674, FL, Ocala
32675, FL, Ocala

32676, FL, Ocala
32678, FL, Ocala
34420, FL, Belleview, Marion, 7.22
34421, FL, Belleview, Marion, 7.22
34472, FL, Ocala, Marion, 5.9
34470, 19427, Ocala
34471, 22479, Ocala
34473, 1209, Ocala
34474, 13184, Ocala
34475, 11384, Ocala
34476, 10046, Ocala
34477, Ocala
34478, Ocala
34479, 12504, Ocala
34480, 10548, Ocala
34481, 7765, Ocala

Ochopee (1,221)

33925, Chokoloskee
33926, Copeland
33929, Everglades City
33943, 1221, Ochopee
34137, Copeland
34139, Everglades City
34138, Chokoloskee

Okeechobee (33,565)

34972, FL, Okeechobee, Okeechobee, 6.09
34972, FL, Basinger, Okeechobee, 7.31
34973, FL, Okeechobee, Okeechobee, 2.08
34974, FL, Okeechobee, Okeechobee, 0

Old Town (10,674)

32628,FL,Cross City,Dixie, 0.82
*32680,FL,Old Town,Dixie, 0
32680,FL,Fanning Springs,Dixie, 0.01
33268, Old Town

Orlando (694,018)

32701, FL, Altamonte Springs, Seminole, 6.29
32707, FL, Casselberry, Seminole, 4.69
32708, FL, Winter Springs, Seminole, 6.11
32708, FL, Casselberry, Seminole, 6.11
32714, FL, Altamonte Springs, Seminole, 8.06
32714, FL, Forest City, Seminole, 8.1
32715, FL, Altamonte Springs, Seminole, 5.86
32716, FL, Altamonte Springs, Seminole, 7.71
32718, FL, Casselberry, Seminole, 4.86
32719, FL, Winter Springs, Seminole, 6.24
32730, FL, Fern Park, Seminole, 4.63
32730, FL, Casselberry, Seminole, 4.63
32733, FL, Goldenrod, Seminole, 3.28
32750, FL, Longwood, Seminole, 8.2
32751, FL, Eatonville, Orange, 3.85
32751, FL, Maitland, Orange, 4.14

32752, FL, Longwood, Seminole, 9.77
 32762, FL, Oviedo, Seminole, 8.63
 32765, FL, Oviedo, Seminole, 6.91
 32789, FL, Winter Park, Orange, 3.13
 32790, FL, Winter Park, Orange, 1.67
 32792, FL, Aloma, Orange, 0
 32792, FL, Winter Park, Orange, 1.35
 32794, FL, Maitland, Orange, 4.35
 32799, FL, Mid Florida, Seminole, 4.01
 32801, FL, Orlando, Orange, 5.61
 32802, FL, Orlando, Orange, 6.02
 32803, FL, Orlando, Orange, 4.02
 32804, FL, Orlando, Orange, 5.67
 32805, FL, Orlando, Orange, 7.69
 32806, FL, Orlando, Orange, 6.5
 32807, FL, Orlando, Orange, 3.21
 32807, FL, Azalea Park, Orange, 3.21
 32808, FL, Orlando, Orange, 7.2
 32808, FL, Pine Hills, Orange, 7.2
 32810, FL, Orlando, Orange, 7.75
 32810, FL, Lockhart, Orange, 7.75
 32812, FL, Belle Isle, Orange, 7.29
 32812, FL, Orlando, Orange, 7.35
 32813, FL, Orlando, Orange, 2.46
 32814, FL, Orlando, Orange, 6.01
 32816, FL, Orlando, Orange, 6.1
 32817, FL, Union Park, Orange, 3.27
 32817, FL, Orlando, Orange, 3.6
 32822, FL, Ventura, Orange, 6.39
 32822, FL, Orlando, Orange, 7
 32825, FL, Orlando, Orange, 4.59
 32826, FL, Orlando, Orange, 7.37
 32828, FL, Orlando, Orange, 8.06
 32828, FL, Alafaya, Orange, 8.12
 32829, FL, Orlando, Orange, 7.71
 32834, FL, Orlando, Orange, 7.53
 32839, FL, Orlando, Orange, 9.46
 32839, FL, Edgewood, Orange, 9.57
 32839, FL, Pine Castle, Orange, 9.57
 32853, FL, Orlando, Orange, 7.53
 32854, FL, Orlando, Orange, 5.5
 32855, FL, Orlando, Orange, 7.66
 32856, FL, Orlando, Orange, 7.13
 32857, FL, Orlando, Orange, 7.53
 32858, FL, Orlando, Orange, 5.99
 32859, FL, Orlando, Orange, 7.53
 32860, FL, Orlando, Orange, 7.53
 32861, FL, Orlando, Orange, 6.01
 32862, FL, Orlando, Orange, 6.01
 32867, FL, Orlando, Orange, 3.67
 32868, FL, Orlando, Orange, 7.53
 32869, FL, Orlando, Orange, 7.53
 32872, FL, Orlando, Orange, 7.53
 32877, FL, Orlando, Orange, 7.53
 32878, FL, Orlando, Orange, 7.53
 32879, FL, Winter Park

32886, FL, Orlando, Orange, 7.53
 32887, FL, Orlando, Orange, 7.53
 32889, FL, Orlando, Orange, 7.53
 32890, FL, Orlando, Orange, 7.53
 32891, FL, Orlando, Orange, 7.53
 32893, FL, Orlando, Orange, 7.53
 32897, FL, Orlando, Orange, 7.53
 32898, FL, Orlando, Orange, 7.53
 32899, FL, Orlando, Brevard, 7.53
 34645, FL, Seminole

Orlando (98,984)

32741, FL, Kissimmee
 32809, FL, Belle Isle, Orange, 5.29
 32809, FL, Edgewood, Orange, 5.29
 32809, FL, Pine Castle, Orange, 5.29
 32809, FL, Orlando, Orange, 5.6
 32811, FL, Orlando, Orange, 0
 32811, FL, Orlo Vista, Orange, 0
 32819, FL, Orlando, Orange, 4.33
 32819, FL, Sand Lake, Orange, 4.33
 34786, FL, Windermere, Orange, 4.32
 34787, FL, Winter Garden, Orange, 8
 32830, FL, Orlando, Orange, 0
 32830, FL, Lake Buena Vista, Orange, 0
 34747, FL, Kissimmee, Osceola, 6.8
 34747, FL, Celebration, Osceola, 6.8

Orlando (7,670)

32827, FL, Orlando, Orange, 0
 32831, FL, Orlando, Orange, 9.55
32832, FL, Orlando, Orange, 8.58

Orlando (18,612)

32709, FL, Christmas, Orange, 4.74
 32766, FL, Chuluota, Seminole, 7.93
 32766, FL, Oviedo, Seminole, 8.47
 32820, FL, Orlando, Orange, 3.83
32833, FL, Orlando, Orange, 0

Ormand Beach (55,629)

32074, FL, Ormond Beach, Volusia
 32173, FL, Ormond Beach, Volusia, 1.83
32174, FL, Ormond Beach, Volusia, 0
 32176, FL, Ormond Beach, Volusia, 4.87

Paisley (3,934)

32702, FL, Altoona, Lake, 6.88
32767, FL, Paisley, Lake, 0

Palatka (36,399)

32007, FL, Bostwick, Putnam, 9.24
 32077, FL, Palatka
 32131, FL, East Palatka, Putnam, 6.08
 32147, FL, Hollister, Putnam, 9.31
32177, FL, Palatka, Putnam, 0

32178, FL, Palatka, Putnam, 1.45
32187, FL, San Mateo, Putnam, 7.68
32193, FL, Welaka

Palm Bay (43,013)

32905, FL, Palm Bay, Brevard, 0
32908, FL, Melbourne, Brevard, 6.18
32908, FL, Palm Bay, Brevard, 6.21
32909, FL, Melbourne, Brevard, 4.1
32909, FL, Palm Bay, Brevard, 4.16
32945, FL, Grant, Brevard
32949, FL, Grant, Brevard, 6.03
32950, FL, Malabar, Brevard, 1.03
32951, FL, Melbourne, Brevard, 3.54
32951, FL, Melbourne Beach, Brevard, 5.13
32976, FL, Barefoot Bay, Brevard, 9.44
32976, FL, Micco, Brevard, 9.44

Palm City (15,734)

33490, FL, Palm City, Martin
34990, FL, Palm City, Martin, 5.22
34991, FL, Palm City, Martin, 3.67

Palm Coast (43,341)

32110, FL, Bunnell, Flagler, 5.22
32135, FL, Palm Coast, Flagler, 2.42
32137, FL, Palm Coast, Flagler, 0
32142, FL, Palm Coast, Flagler, 2.42
32164, FL, Palm Coast, Flagler, 0.29

Panacea (5,495)

32346, FL, Panacea, Wakulla, 7.35
32346, FL, Alligator Point, Wakulla, 7.88
32358, FL, Sopchoppy, Wakulla, 0
32358, FL, Saint Teresa, Wakulla, 4.47

Panama City (94,185)

32401, FL, Panama City, Bay, 5.62
32402, FL, Panama City, Bay, 6.99
32403, FL, Tyndall AFB, Bay, 7.46
32404, FL, Panama City, Bay, 0
32405, FL, Panama City, Bay, 6.1
32411, FL, Panama City, Bay, 6.82
32412, FL, Panama City, Bay, 6.82
32417, FL, Panama City, Bay, 6.82
32444, FL, Lynn Haven, Bay, 6.33

Panama City (5,788)

32409, FL, Southport, Bay, 0
32409, FL, Panama City, Bay, 0
32466, FL, Youngstown, Bay, 9.17
32438, FL, Fountain, Bay, 0

Panama City Beach (14,780)

32406, FL, Panama City, Bay, 1.58
32407, FL, Panama City Beach, Bay, 3.61

32407, FL, Panama City, Bay, 3.61
32408, FL, Panama City, Bay, 0

Panama City Beach (6,701)

*32413, FL, Panama City Beach, Bay, 0
32461, FL, Sunnyside, Bay, 2.71
32461, FL, Panama City, Bay, 2.71

Parrish (4,317)

33586, FL, Sun City, Hillsborough, 8.37
34219, FL, Parrish, Manatee, 0

Pensacola (257,692)

32501, FL, Pensacola, Escambia, 2.38
32502, FL, Pensacola, Escambia, 1.4
32503, FL, Pensacola, Escambia, 0
32504, FL, Pensacola, Escambia, 2.75
32505, FL, Pensacola, Escambia, 2.9
32506, FL, Pensacola, Escambia, 6.45
32507, FL, Pensacola, Escambia, 9.38
32508, FL, Pensacola, Escambia, 8.22
32509, FL, Pensacola, Escambia, 2.49
32511, FL, Pensacola, Escambia, 9.51
32512, FL, Pensacola, Escambia, 3.99
32513, FL, Pensacola, Escambia, 1.4
32514, FL, Pensacola, Escambia, 5.06
32516, FL, Pensacola, Escambia, 5.48
32520, FL, Pensacola, Escambia, 2.99
32521, FL, Pensacola, Escambia, 1.4
32522, FL, Pensacola, Escambia, 1.4
32523, FL, Pensacola, Escambia, 4.39
32524, FL, Pensacola, Escambia, 1.4
32525, FL, Pensacola, Escambia
32526, FL, Bellview, Escambia, 6.94
32526, FL, Pensacola, Escambia, 9.33
32534, FL, Pensacola, Escambia, 6.47
32559, FL, Pensacola, Escambia, 1.4
32560, FL, Gonzalez, Escambia, 9.9
32561, FL, Pensacola Beach, Santa Rosa, 8.7
32562, FL, Gulf Breeze, Santa Rosa, 6.23
32573, FL, Pensacola, Escambia, 1.4
32574, FL, Pensacola, Escambia, 3.24
32575, FL, Pensacola, Escambia, 1.4
32576, FL, Pensacola, Escambia, 1.4
32581, FL, Pensacola, Escambia, 1.4
32582, FL, Pensacola, Escambia, 1.4
32589, FL, Pensacola, Escambia, 1.4
32590, FL, Pensacola, Escambia, 1.4
32591, FL, Pensacola, Escambia, 1.4
32592, FL, Pensacola, Escambia, 1.4
32593, FL, Pensacola, Escambia, 1.4
32594, FL, Pensacola, Escambia, 1.4
32595, FL, Pensacola, Escambia, 1.4
32596, FL, Pensacola, Escambia, 1.4
32597, FL, Pensacola, Escambia, 1.4

32598, FL, Pensacola, Escambia, 1.4

Perry (15,185)

*32347,FL,Perry,Taylor, 0

32348,FL,Perry,Taylor, 0.12

32349, FL, Perry, Taylor

Pierson (9,818)

32102,FL,Astor,Lake, 6.68

32105,FL,Barberville,Volusia, 3.81

32180,FL,Pierson,Volusia, 0

Pinellas Park (45,674)

34665, 25235, Pinellas Park

34666, 20439, Pinellas Park

Placida (4,290)

33921,FL,Boca Grande,Lee, 9.11

33946,FL,Placida,Charlotte, 2.75

33947,FL,Placida,Charlotte, 0

33947,FL,Rotonda West,Charlotte, 0.54

Plant City (34,716)

33565,FL,Plant City,Hillsborough, 3.74

33566,FL,Plant City,Hillsborough, 0

Polk City (8,472)

33868,FL,Polk City,Polk, 0

Ponte Vedra Beach (18,502)

32004,FL,Ponte Vedra Beach,Saint Johns, 4.66

*32082,FL,Ponte Vedra Beach,Saint Johns, 0

32082,FL,Ponte Vedra,Saint Johns, 0

Port Richey (206,252)

34469, FL, Hudson, Pasco

34650, FL, New Port Richey, Pasco

34652, FL, New Port Richey, Pasco, 4.71

34653, FL, New Port Richey, Pasco, 3.78

34654, FL, New Port Richey, Pasco, 4.4

34655, FL, New Port Richey, Pasco, 6.44

34656, FL, New Port Richey, Pasco, 4.05

34667, FL, Hudson, Pasco, 6.76

34667, FL, Hudson Bayonet Point, Pasco, 6.76

34667, FL, Port Richey, Pasco, 6.76

34667, FL, Bayonet Point, Pasco, 6.76

34668, FL, Port Richey, Pasco, 0

34669, FL, Hudson, Pasco, 6.57

34669, FL, Hudson Bayonet Point, Pasco, 6.57

34669, FL, Port Richey, Pasco, 6.57

34673, FL, Port Richey, Pasco, 2.12

34674, FL, Hudson, Pasco, 3.63

34674, FL, Port Richey, Pasco, 3.89

34679, FL, Aripeka, Pasco, 9.12

Port Saint Joe (7,933)

32410,FL,Mexico Beach,Bay, 8.64

32456,FL,Port Saint Joe,Gulf, 0

32456,FL,Overstreet,Gulf, 2.25

32457,FL,Port Saint Joe,Gulf, 2.48

32546, FL, Port Saint Joe, Gulf

Port Saint Lucie (107,896)

34940, FL, Fort Pierce, Saint Lucie

34948, FL, Fort Pierce, Saint Lucie, 9.9

34952, FL, Port Saint Lucie, Saint Lucie, 0

34952, FL, Fort Pierce, Saint Lucie, 0

34953, FL, Fort Pierce, Saint Lucie, 5.73

34953, FL, Port Saint Lucie, Saint Lucie, 5.85

34953, FL, Saint Lucie West, Saint Lucie, 6.18

34981, FL, Fort Pierce, Saint Lucie, 8.53

34982, FL, Fort Pierce, Saint Lucie, 6.89

34983, FL, Port Saint Lucie, Saint Lucie, 3.19

34983, FL, Fort Pierce, Saint Lucie, 3.19

34983, FL, Saint Lucie West, Saint Lucie, 3.28

34984, FL, Fort Pierce, Saint Lucie, 3.23

34984, FL, Port Saint Lucie, Saint Lucie, 3.74

34985, FL, Port Saint Lucie, Saint Lucie, 3.32

34985, FL, Fort Pierce, Saint Lucie, 3.32

34986, FL, Port Saint Lucie, Saint Lucie, 7.05

34986, FL, Fort Pierce, Saint Lucie, 7.05

34986, FL, Saint Lucie West, Saint Lucie, 7.54

34987, FL, Saint Lucie West, Saint Lucie, 9.76

Port Saint Lucie (473)

34987,FL,Saint Lucie West,Saint Lucie, 3.51

34988,FL,Port Saint Lucie,Saint Lucie, 0

34988,FL,Saint Lucie West,Saint Lucie, 1.83

34988,FL,Port Saint Lucie,Saint Lucie, 2.01

Punta Gorda (118,015)

33983, FL, Punta Gorda, Charlotte, 4.98

Punta Gorda (5,733)

33842, FL, Fort Ogden

33864, FL, Nocatee

33927, FL, El Jobean, Charlotte, 6.48

33927, FL, Punta Gorda, Charlotte, 7.26

33938, FL, Murdock, Charlotte, 4.38

33948, FL, Punta Gorda, Charlotte, 2.9

33948, FL, Port Charlotte, Charlotte, 3.4

33949, FL, Port Charlotte, Charlotte, 0.84

33949, FL, Punta Gorda, Charlotte, 0.84

33950, FL, Punta Gorda, Charlotte, 5.9

33951, FL, Punta Gorda, Charlotte, 7.63

33952, FL, Port Charlotte, Charlotte, 0

33952, FL, Punta Gorda, Charlotte, 0

33953, FL, Port Charlotte, Charlotte, 6.66

33953, FL, Punta Gorda, Charlotte, 7.18

33954, FL, Punta Gorda, Charlotte, 2.6

33954, FL, Port Charlotte, Charlotte, 3.08

33980, FL, Punta Gorda, Charlotte, 2.09
33980, FL, Port Charlotte, Charlotte, 2.5
33981, FL, Punta Gorda, Charlotte, 8.87
33981, FL, Port Charlotte, Charlotte, 9.23
33982, FL, Punta Gorda, Charlotte, 8.09
34267, FL, Fort Ogden
34268, FL, Nocatee

Punta Gorda (5,733)

33955,FL,Punta Gorda,Charlotte, 0

Quincy (25,813)

32330, FL, Greensboro, Gadsden, 9.54
32332, FL, Gretna, Gadsden, 5.24
32351, FL, Quincy, Gadsden, 0
32353, FL, Quincy, Gadsden, 0.78

Reddick (41,960)

32113, FL, Citra, Marion, 7.96
32192, FL, Sparr, Marion, 9.54
32617, FL, Anthony, Marion, 9.72
32631, FL, Earleton, Alachua, 5.22
32633, FL, Evinston, Alachua, 8.96
32634, FL, Fairfield, Marion, 1.86
32663, FL, Lowell, Marion, 3.66
32664, FL, McIntosh, Marion, 6.21
32667, FL, Micanopy, Alachua, 6.52
32668, FL, Morriston, Levy, 8.81
32681, FL, Orange Lake, Marion, 4.55
32686, FL, Reddick, Marion, 0
34482, FL, Ocala, Marion, 9.44

Ruskin (35,247)

33503, FL, Balm, Hillsborough, 9.57
33570, FL, Ruskin, Hillsborough, 0
33570, FL, Sun City Center, Hillsborough, 0
33571, FL, Ruskin, Hillsborough, 1.14
33571, FL, Sun City Center, Hillsborough, 5.96
33572, FL, Apollo Beach, Hillsborough, 4.91
33573, FL, Sun City Center, Hillsborough, 5.5
33573, FL, Ruskin, Hillsborough, 5.5
33586, FL, Sun City, Hillsborough, 2.96
33598, FL, Wimauma, Hillsborough, 7.17

Saint Augustine (65,242)

32084, FL, Saint Augustine, Saint Johns, 0
32084, FL, Saint Augustine Beach, Saint Johns, 0
32085, FL, Saint Augustine, Saint Johns, 1.67
32086, FL, Saint Augustine, Saint Johns, 3.94
32089, FL, Saint Augustine, Saint Johns
32095, FL, Saint Augustine, Saint Johns, 2.7
32586, FL, Saint Augustine, Saint Johns

Saint Augustine (5,338)

32092,FL,Saint Augustine,Saint Johns, 0

Saint Cloud (15,981)

34770,FL,Saint Cloud,Osceola, 2.58
34771,FL,Saint Cloud,Osceola, 7.72
34772,FL,Saint Cloud,Osceola, 0
34773,FL,Saint Cloud,Osceola, 0

Saint Petersburg (337,425)

33504, FL, Bay Pines, Pinellas
33700, FL, Saint Petersburg, Pinellas
33701, FL, Saint Petersburg, Pinellas, 5.58
33702, FL, Saint Petersburg, Pinellas, 6.42
33703, FL, Saint Petersburg, Pinellas, 6.65
33704, FL, Saint Petersburg, Pinellas, 5.77
33705, FL, Saint Petersburg, Pinellas, 6.25
33706, FL, Saint Petersburg, Pinellas, 4.14
33706, FL, Treasure Island, Pinellas, 4.14
33707, FL, South Pasadena, Pinellas, 2.31
33707, FL, Saint Petersburg, Pinellas, 2.48
33707, FL, Gulfport, Pinellas, 2.48
33708, FL, Madeira Beach, Pinellas, 4.51
33708, FL, North Redington Beach, Pinellas, 4.51
33708, FL, Redington Beach, Pinellas, 4.51
33708, FL, Saint Petersburg, Pinellas, 4.71
33709, FL, Kenneth City, Pinellas, 1.87
33709, FL, Saint Petersburg, Pinellas, 1.98
33710, FL, Saint Petersburg, Pinellas, 0
33711, FL, Gulfport, Pinellas, 3.72
33711, FL, Saint Petersburg, Pinellas, 3.93
33712, FL, Saint Petersburg, Pinellas, 5.01
33713, FL, Saint Petersburg, Pinellas, 3.25
33714, FL, Saint Petersburg, Pinellas, 3.65
33715, FL, Saint Petersburg, Pinellas, 7.15
33715, FL, Tierra Verde, Pinellas, 7.15
33716, FL, Saint Petersburg, Pinellas, 7.9
33728, FL, Saint Petersburg, Pinellas, 5.7
33729, FL, Saint Petersburg, Pinellas, 5.7
33730, FL, Saint Petersburg, Pinellas, 6.65
33731, FL, Saint Petersburg, Pinellas, 6.45
33732, FL, Saint Petersburg, Pinellas, 5.7
33733, FL, Saint Petersburg, Pinellas, 3.42
33734, FL, Saint Petersburg, Pinellas, 5.05
33736, FL, Saint Petersburg, Pinellas, 3.47
33737, FL, Saint Petersburg, Pinellas, 3.14
33738, FL, Saint Petersburg, Pinellas, 4.57
33738, FL, Madeira Beach, Pinellas, 4.57
33740, FL, Treasure Island, Pinellas, 2.86
33740, FL, Saint Petersburg, Pinellas, 2.86
33741, FL, Saint Petersburg, Pinellas, 7.06
33742, FL, Saint Petersburg, Pinellas, 3.81
33743, FL, Saint Petersburg, Pinellas, 0.42
33744, FL, Bay Pines, Pinellas, 3.4
33747, FL, Saint Petersburg, Pinellas, 3.26
33770, FL, Largo, Pinellas, 8.83
33771, FL, Largo, Pinellas, 8.83
33772, FL, Seminole, Pinellas, 5.05
33773, FL, Largo, Pinellas, 8.83

33774, FL, Largo, Pinellas, 8.83
33775, FL, Seminole, Pinellas, 5.05
33776, FL, Seminole, Pinellas, 5.05
33777, FL, Largo, Pinellas, 8.83
33778, FL, Largo, Pinellas, 8.83
33779, FL, Largo, Pinellas, 8.83
33780, FL, Pinellas Park, Pinellas, 4.86
33781, FL, Pinellas Park, Pinellas, 4.86
33782, FL, Pinellas Park, Pinellas, 4.86
33784, FL, Saint Petersburg, Pinellas, 5.7
34664, FL, Pinellas Park

Salem (236)

32356,FL,Salem,Taylor, 0

Sanderson (2,626)

32061,FL,Lulu,Columbia, 8.16
32072,FL,Olustee,Baker, 0.07
32087,FL,Sanderson,Baker, 0

Santa Rosa Beach (7,184)

32439,FL,Freeport,Walton, 6.71
32454,FL,Point Washington,Walton, 7.15
32459,FL,Santa Rosa Beach,Walton, 0
32749, FL, Freeport, Walton

Sarasota (225,484)

34229, FL, Osprey, Sarasota, 6.13
34230, FL, Sarasota, Sarasota, 6.15
34231, FL, Sarasota, Sarasota, 0
34232, FL, Sarasota, Sarasota, 4.42
34233, FL, Sarasota, Sarasota, 2.75
34234, FL, Sarasota, Sarasota, 6.83
34235, FL, Sarasota, Sarasota, 6.86
34236, FL, Sarasota, Sarasota, 4.72
34237, FL, Sarasota, Sarasota, 4.76
34238, FL, Sarasota, Sarasota, 2.33
34239, FL, Sarasota, Sarasota, 2.74
34240, FL, Sarasota, Sarasota, 9.01
34241, FL, Sarasota, Sarasota, 6.79
34242, FL, Sarasota, Sarasota, 1.97
34243, FL, Sarasota, Manatee, 9.64
34270, FL, Tallevast, Manatee, 9.4
34274, FL, Nokomis, Sarasota, 9.93
34275, FL, Nokomis, Sarasota, 9.99
34276, FL, Sarasota, Sarasota, 5
34278, FL, Sarasota, Sarasota, 3.79
34278, FL, Fruitville, Sarasota, 4.47
34278, FL, Pinecraft, Sarasota, 4.47

Satsuma (3,924)

32189, FL, Satsuma, Putnam, 5.45

Sebastian (18,657)

32945, FL, Fellsmere, Indian River
32948, FL, Fellsmere, Indian River, 7.36
32957, FL, Roseland, Indian River, 3.04
32958, FL, Sebastian, Indian River, 0
32976, FL, Sebastian, Brevard, 5.78
32978, FL, Sebastian, Indian River, 0.63

Sebring (56,380)

33825, FL, Avon Park, Highlands, 9.97
33826, FL, Avon Park, Highlands, 9.16
33870, FL, Sebring, Highlands, 0
33871, FL, Sebring, Highlands, 2.43
33872, FL, Sebring, Highlands, 4.09

Silver Springs (8,010)

32688, Silver Springs
34488, 8010, Silver Springs

Sneads (11,771)

32324, FL, Chattahoochee, Gadsden, 5.63
32352, FL, Mount Pleasant, Gadsden, 6.64
32432, FL, Cypress, Jackson, 8.39
32442, FL, Grand Ridge, Jackson, 5.64
32460, FL, Sneads, Jackson, 0

South Miami (45,492)

33030, FL, Homestead, Miami-Dade, 9.97
33031, FL, Redland, Miami-Dade, 7.29
33031, FL, Homestead, Miami-Dade, 7.61
33032, FL, Homestead, Miami-Dade, 5.26
33032, FL, Naranja, Miami-Dade, 5.4
33032, FL, Princeton, Miami-Dade, 5.4
33032, FL, Redland, Miami-Dade, 5.4
33033, FL, Homestead, Miami-Dade, 8.03
33039, FL, Homestead, Miami-Dade, 6.68
33092, FL, Homestead, Miami-Dade, 4.32
33116, FL, Miami, Miami-Dade, 5
33143, FL, Coral Gables, Miami-Dade, 9.47
33143, FL, South Miami, Miami-Dade, 9.47
33143, FL, Miami, Miami-Dade, 9.66
33156, FL, Coral Gables, Miami-Dade, 7.6
33156, FL, Kendall, Miami-Dade, 7.6
33156, FL, Pinecrest, Miami-Dade, 7.6
33156, FL, Miami, Miami-Dade, 8.06
33157, FL, Miami, Miami-Dade, 0
33157, FL, Perrine, Miami-Dade, 0
33157, FL, Cutler Ridge, Miami-Dade, 3.57
33158, FL, Miami, Miami-Dade, 5.71
33158, FL, Coral Gables, Miami-Dade, 5.82
33170, FL, Miami, Miami-Dade, 4.84
33170, FL, Perrine, Miami-Dade, 4.84
33170, FL, Goulds, Miami-Dade, 4.84
33170, FL, Quail Heights, Miami-Dade, 4.84
33173, FL, Miami, Miami-Dade, 7.17
33175, FL, Olympia Heights, Miami-Dade, 8.83
33175, FL, Miami, Miami-Dade, 9.03

33176, FL, Miami, Miami-Dade, 4.4
 33177, FL, Perrine, Miami-Dade, 0.48
 33177, FL, Quail Heights, Miami-Dade, 0.93
 33177, FL, Miami, Miami-Dade, 1.21
 33183, FL, Miami, Miami-Dade, 6.65
 33185, FL, Miami, Miami-Dade, 7.85
 33185, FL, Olympia Heights, Miami-Dade, 8.04
 33186, FL, Miami, Miami-Dade, 4.11
 33187, FL, Miami, Miami-Dade, 6.49
 33187, FL, Perrine, Miami-Dade, 6.49
 33187, FL, Quail Heights, Miami-Dade, 6.49
 33189, FL, Quail Heights, Miami-Dade, 3.79
 33189, FL, Miami, Miami-Dade, 3.88
 33189, FL, Perrine, Miami-Dade, 4
 33190, FL, Miami, Miami-Dade, 5.22
 33190, FL, Perrine, Miami-Dade, 5.22
 33190, FL, Quail Heights, Miami-Dade, 5.22
 33193, FL, Miami, Miami-Dade, 6.63
 33196, FL, Miami, Miami-Dade, 5.09
 33197, FL, Miami, Miami-Dade, 2.73
 33197, FL, Quail Heights, Miami-Dade, 2.73
 33256, FL, Miami, Miami-Dade, 6.3
 33256, FL, Kendall, Miami-Dade, 6.3
 33256, FL, Pinecrest Postal Store, Miami-Dade, 6.3

Starke (20,774)

32042, FL, Graham, Bradford, 1.59
 32044, FL, Hampton, Bradford, 7.29
 32058, FL, Lawtey, Bradford, 9.13
32091, FL, Starke, Bradford, 0

Steinhatchee (1,635)

32359, FL, Steinhatchee, Taylor, 0

Stuart (103,550)

33455, FL, Hobe Sound, Martin, 6.22
 33457, FL, Jensen Beach, Martin
 33475, FL, Hobe Sound, Martin, 8.83
 33492, FL, Port Salerno, Martin
 33494, FL, Stuart, Martin
 34957, FL, Hutchinson Beach, Martin, 6.71
 34957, FL, Jensen Beach, Martin, 8.06
 34958, FL, Jensen Beach, Martin, 3.8
 34967, FL, Jensen Beach, Martin
 34992, FL, Port Salerno, Martin, 0.57
 34994, FL, Stuart, Martin, 4.85
 34995, FL, Stuart, Martin, 2.07
 34996, FL, Sewalls Point, Martin, 3.85
 34996, FL, Stuart, Martin, 3.98
34997, FL, Stuart, Martin, 0

Sumterville (1,879)

33514, FL, Center Hill, Sumter, 0
33585, FL, Sumterville, Sumter, 0

Tallahassee (212,267)

32301, FL, Tallahassee, Leon, 4.08
 32302, FL, Tallahassee, Leon, 0
32303, FL, Tallahassee, Leon, 3.71
 32304, FL, Tallahassee, Leon, 2.51
 32306, FL, Tallahassee, Leon, 0.99
 32307, FL, Tallahassee, Leon, 1.01
 32308, FL, Tallahassee, Leon, 5.92
 32310, FL, Tallahassee, Leon, 3.77
 32311, FL, Tallahassee, Leon, 6.7
 32312, FL, Tallahassee, Leon, 6.05
 32313, FL, Tallahassee, Leon, 0.93
 32313, FL, Florida State, Leon, 0.93
 32314, FL, Tallahassee, Leon, 3
 32315, FL, Tallahassee, Leon, 1.51
 32316, FL, Tallahassee, Leon, 0.98
 32317, FL, Tallahassee, Leon, 0.98
 32362, FL, Woodville, Leon, 9.16
 32395, FL, Tallahassee, Leon, 0.98
 32399, FL, Tallahassee, Leon, 1.78
 32337, FL, Lloyd

Tampa (540,717)

33548, FL, Lutz, Hillsborough, 5.82
 33549, FL, Lutz, Hillsborough, 5.3
 33556, FL, Odessa, Hillsborough, 5.22
 33602, FL, Tampa, Hillsborough, 8.99
 33603, FL, Tampa, Hillsborough, 7.11
 33604, FL, Tampa, Hillsborough, 5.78
 33605, FL, Tampa, Hillsborough, 9.55
 33607, FL, Tampa, Hillsborough, 7.84
 33609, FL, Tampa, Hillsborough, 9.07
 33610, FL, Tampa, Hillsborough, 9.98
 33612, FL, Tampa, Hillsborough, 4.74
 33613, FL, Tampa, Hillsborough, 4.37
 33614, FL, Tampa, Hillsborough, 4.65
 33615, FL, Tampa, Hillsborough, 5.84
 33617, FL, Tampa, Hillsborough, 8.32
 33617, FL, Temple Terrace, Hillsborough, 8.32
 33618, FL, Carrollwood, Hillsborough, 1.91
33618, FL, Tampa, Hillsborough, 2.06
 33620, FL, Tampa, Hillsborough, 6.89
 33622, FL, Tampa, Hillsborough, 7.93
 33623, FL, Tampa, Hillsborough, 7.93
 33624, FL, Tampa, Hillsborough, 0
 33625, FL, Tampa, Hillsborough, 2.1
 33630, FL, Tampa, Hillsborough, 7.93
 33631, FL, Tampa, Hillsborough, 7.93
 33633, FL, Tampa, Hillsborough, 8.37
 33634, FL, Tampa, Hillsborough, 4.77
 33637, FL, Tampa, Hillsborough, 7.69
 33650, FL, Tampa, Hillsborough, 8.37
 33651, FL, Tampa, Hillsborough, 8.37
 33655, FL, Tampa, Hillsborough, 8.37
 33660, FL, Tampa, Hillsborough, 8.37
 33661, FL, Tampa, Hillsborough, 8.37

33662, FL, Tampa, Hillsborough, 8.37
 33663, FL, Tampa, Hillsborough, 8.37
 33664, FL, Tampa, Hillsborough, 8.37
 33672, FL, Tampa, Hillsborough, 8.37
 33673, FL, Tampa, Hillsborough, 6.79
 33674, FL, Tampa, Hillsborough, 8.37
 33675, FL, Tampa, Hillsborough, 4.45
 33677, FL, Tampa, Hillsborough, 8.37
 33679, FL, Tampa, Hillsborough, 8.5
 33680, FL, Tampa, Hillsborough, 8.37
 33682, FL, Tampa, Hillsborough, 4.19
 33684, FL, Tampa, Hillsborough, 5.67
 33685, FL, Tampa, Hillsborough, 8.37
 33687, FL, Tampa, Hillsborough, 8.4
 33687, FL, Temple Terrace, Hillsborough, 8.4
 33688, FL, Tampa, Hillsborough, 1.56
 33688, FL, Carrollwood, Hillsborough, 1.56
 33689, FL, Tampa, Hillsborough, 9.65
 33690, FL, Tampa, Hillsborough, 8.37
 33697, FL, Tampa, Hillsborough, 8.37
 33647, FL, Tampa, Hillsborough, 8.65
 34639, FL, Land O' Lakes, Pasco, 0

Tampa (113,983)

33534, FL, Gibsonton, Hillsborough, 8.86
 33572, FL, Ruskin, Hillsborough, 9.89
 33606, FL, Tampa, Hillsborough, 3.97
 33608, FL, Tampa, Hillsborough, 3.34
 33608, FL, MacDill AFB, Hillsborough, 3.34
33611, FL, Tampa, Hillsborough, 0
 33616, FL, Tampa, Hillsborough, 1.61
 33619, FL, Tampa, Hillsborough, 8.43
 33621, FL, Tampa, Hillsborough, 3.46
 33629, FL, Tampa, Hillsborough, 2.05
 33681, FL, Tampa, Hillsborough, 1.08
 33686, FL, Tampa, Hillsborough, 2.09

Titusville (84,652)

32754, FL, Mims, Brevard, 8.44
32780, FL, Titusville, Brevard, 0
 32781, FL, Titusville, Brevard, 2.82
 32782, FL, Titusville, Brevard, 1.15
 32783, FL, Titusville, Brevard, 1.15
 32796, FL, Titusville, Brevard, 3.83
 32921, FL, Cocoa
 32927, FL, Port Saint John, Brevard, 7.24
 32927, FL, Cocoa, Brevard, 7.27
 32959, FL, Sharpes, Brevard, 7.81

Venice (67,714)

34223, FL, Englewood, Sarasota, 2.69
 34224, FL, Grove City, Sarasota, 8.65
 34224, FL, Englewood, Sarasota, 9.24
 34272, FL, Laurel, Sarasota, 8.71
 34284, FL, Venice, Sarasota, 3.52
34285, FL, Venice, Sarasota, 5.43

34292, FL, Venice, Sarasota, 5.37
 34293, FL, Venice, Sarasota, 0
 34293, FL, South Venice, Sarasota, 2.67
 34295, FL, Englewood, Sarasota, 8.75

Venus (893)

33960, FL, Venus, Highlands, 0

Vero Beach (75,829)

32960, FL, Vero Beach, Indian River, 0
 32961, FL, Vero Beach, Indian River, 0.76
 32962, FL, Tropic, Indian River, 3.93
 32962, FL, Vero Beach, Indian River, 4.57
 32963, FL, Vero Beach, Indian River, 3.51
 32963, FL, Indian River Shores, Indian River, 3.58
 32964, FL, Vero Beach, Indian River, 1.46
 32965, FL, Vero Beach, Indian River, 1.46
 32966, FL, Vero Beach, Indian River, 3.52
32967, FL, Vero Beach, Indian River, 4.51
 32968, FL, Vero Beach, Indian River, 4.04
 32969, FL, Vero Beach, Indian River, 1.42
 32970, FL, Wabasso, Indian River, 7.3
 32971, FL, Winter Beach, Indian River, 4.46
 34960, FL, Vero Beach, Indian River

Waldo (1,598)

"32694, FL, Waldo, Alachua, 0"

Wauchula (19,275)

33834, FL, Duette, Hardee, 5.77
 33834, FL, Bowling Green, Hardee, 8.98
33873, FL, Wauchula, Hardee, 0
 33890, FL, Zolfo Springs, Hardee, 3.94

West Palm Beach (621,483)

33401, FL, West Palm Beach, Palm Beach, 5
 33402, FL, West Palm Beach, Palm Beach, 5.88
 33403, FL, Lake Park, Palm Beach, 8.09
 33403, FL, West Palm Beach, Palm Beach, 8.09
 33403, FL, Lake Park, Palm Beach, 1.32
 33403, FL, West Palm Beach, Palm Beach, 1.32
 33404, FL, Singer Island, Palm Beach, 0.62
 33404, FL, Riviera Beach, Palm Beach, 9.4
 33404, FL, West Palm Beach, Palm Beach, 9.4
 33405, FL, West Palm Beach, Palm Beach, 4.2
 33406, FL, Glen Ridge, Palm Beach, 2.16
 33406, FL, West Palm Beach, Palm Beach, 2.31
 33407, FL, West Palm Beach, Palm Beach, 6.65
 33408, FL, Palm Beach Gardens, Palm Beach, 3.56
 33408, FL, West Palm Beach, Palm Beach, 3.56
 33408, FL, North Palm Beach, Palm Beach, 4.42
 33408, FL, Juno Beach, Palm Beach, 4.42
 33409, FL, Haverhill, Palm Beach, 3.83
 33409, FL, West Palm Beach, Palm Beach, 4.56
 33410, FL, Palm Beach Gardens, Palm Beach, 4.07

33410, FL, West Palm Beach, Palm Beach, 4.07
 33411, FL, West Palm Beach, Palm Beach, 5.91
 33411, FL, Royal Palm Beach, Palm Beach, 5.91
33412, FL, West Palm Beach, Palm Beach, 8.9
 33413, FL, West Palm Beach, Palm Beach, 1.61
 33414, FL, West Palm Beach, Palm Beach, 7.78
 33414, FL, Wellington, Palm Beach, 8.07
 33415, FL, Haverhill, Palm Beach, 0
 33415, FL, West Palm Beach, Palm Beach, 0.13
 33416, FL, West Palm Beach, Palm Beach, 5.84
 33417, FL, Haverhill, Palm Beach, 3.59
 33417, FL, West Palm Beach, Palm Beach, 3.95
 33418, FL, Palm Beach Gardens, Palm Beach, 8.54
 33418, FL, West Palm Beach, Palm Beach, 8.54
 33419, FL, Riviera Beach, Palm Beach, 1.42
 33419, FL, West Palm Beach, Palm Beach, 1.42
 33419, FL, Riviera Beach, Palm Beach, 8.58
 33419, FL, West Palm Beach, Palm Beach, 8.58
 33420, FL, Palm Beach Gardens, Palm Beach, 5.95
 33420, FL, West Palm Beach, Palm Beach, 5.95
 33421, FL, Royal Palm Beach, Palm Beach, 5.95
 33421, FL, West Palm Beach, Palm Beach, 5.95
 33422, FL, West Palm Beach, Palm Beach, 5.95
 33424, FL, Boynton Beach, Palm Beach, 9.75
 33425, FL, Boynton Beach, Palm Beach, 9.87
 33426, 10758, Boynton Beach
 33435, 30461, Boynton Beach
 33436, FL, Boynton Beach, Palm Beach, 9.34
 33436, FL, Village of Golf, Palm Beach, 9.46
 33437, FL, Boynton Beach, Palm Beach, 9.13
 33454, FL, Greenacres, Palm Beach, 5.14
 33454, FL, Lake Worth, Palm Beach, 5.14
 33460, FL, Lake Worth, Palm Beach, 5.12
 33461, FL, Palm Springs, Palm Beach, 3.65
 33461, FL, Lake Worth, Palm Beach, 3.78
 33462, FL, Lantana, Palm Beach, 6.74
 33462, FL, Lake Worth, Palm Beach, 6.74
 33462, FL, Hypoluxo, Palm Beach, 6.74
 33463, FL, Greenacres, Palm Beach, 4.67
 33463, FL, Lake Worth, Palm Beach, 4.67
 33464, FL, Lake Worth, Palm Beach, 7.06
 33465, FL, Lantana, Palm Beach, 5.14
 33465, FL, Lake Worth, Palm Beach, 7.06
 33466, FL, Lake Worth, Palm Beach, 5.14
 33467, FL, Greenacres, Palm Beach, 4.73
 33467, FL, Lake Worth, Palm Beach, 5.13
 33474, FL, Boynton Beach, Palm Beach, 9.75
 33477, FL, Jupiter, Palm Beach, 9.21
 33480, FL, Palm Beach, Palm Beach, 6.17

Westville (5,663)

32455, FL, Ponce de Leon, Holmes, 5.85
32464, FL, Westville, Holmes, 0

Wewahitchka (4,233)

32465, Wewahitchka-4233

White Springs (1,856)

32096, White Springs

Wildwood (29,590)

32684, FL, Oxford
 32691, FL, Summerfield, Marion
 33521, FL, Coleman, Sumter, 4.5
 33538, FL, Lake Panasoffkee, Sumter, 9.38
 34484, FL, Oxford, Sumter, 4.23
 34491, FL, Summerfield, Marion, 8.87
 34492, FL, Summerfield, Marion, 8.87
34785, FL, Wildwood, Sumter, 0

Williston (8,852)

32696, FL, Williston, Levy, 0

Winterhaven (111,761)

33820, FL, Alturas, Polk, 9.8
 33830, FL, Bartow, Polk, 8.14
 33831, FL, Bartow, Polk, 9.14
 33839, FL, Eagle Lake, Polk, 1.42
 33850, FL, Lake Alfred, Polk, 6.42
 33851, FL, Lake Hamilton, Polk, 8.33
 33863, FL, Nichols, Polk, 9.68
 33880, FL, Eloise, Polk, 0
 33880, FL, Wahneta, Polk, 0
 33880, FL, Winter Haven, Polk, 1.76
 33881, FL, Winter Haven, Polk, 3.51
 33882, FL, Winter Haven, Polk, 4.69
33883, FL, Winter Haven, Polk, 2.1
 33884, FL, Winter Haven, Polk, 2.29
 33884, FL, Cypress Gardens, Polk, 4.22
 33885, FL, Winter Haven, Polk, 4.52
 33888, FL, Winter Haven, Polk, 3.44

Zephyrhills (48,043)

33524, FL, Crystal Springs, Pasco, 5.46
 33539, FL, Zephyrhills, Pasco, 5.32
 33540, FL, Zephyrhills, Pasco, 2.8
 33541, FL, Zephyrhills, Pasco, 0
 33543, FL, Wesley Chapel, Pasco, 4.52
 33543, FL, Zephyrhills, Pasco, 5.78
33544, FL, Zephyrhills, Pasco, 6.69
 33544, FL, Wesley Chapel, Pasco, 9.1

APPENDIX III: BEA Definitions and Implan Multipliers

BEA Economic Definitions

Region 81:

1. Escambia
2. Santa Rosa
3. Okaloosa
4. Walton

Region 35:

1. Bay
2. Jackson
3. Calhoun
4. Gulf
5. Liberty
6. Franklin
7. Gadsden
8. Leon
9. Wakulla
10. Jefferson
11. Madison
12. Taylor

Region 29:

1. Hamilton
2. Suwannee
3. Lafayette
4. Dixie
5. Levy
6. Gilchrist
7. Columbia
8. Alachua
9. Baker
10. Union
11. Bradford
12. Nassau
13. Duval
14. Clay
15. Putnam
16. St. Johns

Region 30:

1. Flagler
2. Marion
3. Citrus
4. Sumter
5. Lake
6. Polk
7. Hardee
8. Highlands
9. Osceola
10. Orange
11. Seminole
12. Brevard
13. Volusia

Region 33:

1. Sarasota
2. Manatee
3. Charlotte
4. Desoto

Region 34:

1. Hernando
2. Pasco
3. Pinellas
4. Hillsborough

Region 32:

1. Lee
2. Collier
- 3.

Region 31:

1. Indian River
2. St. Lucie
3. Okeechobee
4. Glades
5. Hendry
6. Palm Beach
7. Broward
8. Dade
9. Monroe
10. Martin

*Type I multiplier = (Direct + Indirect)/Direct

**Type SAM multiplier = (Direct + Indirect + Induced)/Direct

***Employment multiplier is expressed in per million dollars of output.

Employment multipliers for region 81 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	29.202488	1.021095	15.245798	45.469381
98	Prepared Fresh Or Frozen Fish Or Seafood	6.930743	7.153253	7.012572	21.096568

*Expressed in per million dollars of output.

Employment multipliers for region 35 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	28.902510	0.768192	14.939588	44.610290
98	Prepared Fresh Or Frozen Fish Or Seafood	7.506249	10.490644	7.603934	25.600827

*Expressed in per million dollars of output.

Employment multipliers for region 34 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	23.837513	1.018934	14.848285	39.704732
98	Prepared Fresh Or Frozen Fish Or Seafood	6.632159	5.051326	6.784793	18.468278

*Expressed in per million dollars of output.

Employment multipliers for region 33 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	28.364319	0.874802	12.370649	41.609770
98	Prepared Fresh Or Frozen Fish Or Seafood	8.285638	5.660398	3.115578	17.061613

*Expressed in per million dollars of output.

Employment multipliers for region 32 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	28.177807	0.923672	12.677929	41.779408
98	Prepared Fresh Or Frozen Fish Or Seafood	6.828456	16.839926	10.564112	34.232494

*Expressed in per million dollars of output.

Employment multipliers for region 31 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	29.960953	0.815191	13.260345	44.036489
98	Prepared Fresh Or Frozen Fish Or Seafood	6.732785	5.002935	6.312689	18.048409

*Expressed in per million dollars of output.

Employment multipliers for region 30 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	30.707634	0.922956	13.637756	45.268347
98	Prepared Fresh Or Frozen Fish Or Seafood	6.784223	4.008729	5.936443	16.729395

*Expressed in per million dollars of output.

Employment multipliers for region 29 using 1997 IMPLAN data.

Sector Number	Sector Description	Direct Effects*	Indirect Effects*	Induced Effects*	Total Effects*
25	Commercial Fishing	28.280029	0.986221	16.997520	46.263771
98	Prepared Fresh Or Frozen Fish Or Seafood	6.695654	6.197089	8.491620	21.384363

*Expressed in per million dollars of output.

APPENDIX IV: Advisory Panel Members

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APPENDIX V: Summary of MAP Meeting 5/7/99

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Steve Jacob gave a brief overview of the MARFIN project. He pointed out that Central Place Theory would be a guiding principle with the research providing a geographical basis for identifying fishing communities. In addition, he indicated that several different types of data were to be aggregated to provide a quantitatively defined typology of fishing communities which will be field tested during year two.

Definition of fishing community.

It was pointed out that if a geographical basis for identifying fishing communities was used that certain aspects of the community may be missed. In fact, it may not represent the community at all. It was suggested that a theory which focused more on the processes and links between individuals and businesses may more closely represent the actual community. Another related point that was brought out was that in some communities, there are places or areas within such communities which would more closely represent a fishing community, rather than the entire community itself.

Closely related to these first two comments was that the socio-cultural determinants of a community are key to its identity. The less quantifiable aspects of a community, those that may have to be gathered through more ethnographic fieldwork, are extremely important when identifying fishing communities. For example, in Alaska where they have struggled with these issues of defining communities, it became clear after looking at some of the networks and other attributes of fishing in the City of Seattle, although the entire city could not be considered a fishing community, there was one area of the city which was almost self-identified as a fishing community through the close proximity of docks, dealers, and processors. Related to that point, it was also suggested that the economic impact from regulations may have little impact upon Seattle, but to that area or portion of Seattle, it may have a substantial impact. That point was reiterated for communities in Florida, like Panama City.

An important question was posed as to whether any impact would be analyzed if a fishing community had not been identified. In other words, if fishermen lived in an area, but were not identified with a specific community, would it be assumed there was no impact? Given that scenario it was pointed out that our jobs may be more difficult given these types of changes and attempts to understand them.

Related to the most recent comments, it was suggested that in this project, rather than look for a static geographical place-based definition, we should attempt to incorporate a more dynamic definition that will encompass the various transitions that these communities are experiencing; one that may encompass both the virtual and the place-based communities.

In another comment, the issue was raised as to how would we discriminate between either state or federal impacts? For example, recreational fishermen, overall, do not fish in federal waters to a great extent. Therefore, the impact from federal regulations may not be as great as it might for commercial fishermen. Further, how would our research account for that kind of differential usage pattern and subsequent impact.

Data Needs

For data needs, it was suggested that we look to the HAACP program for some insight and focus on those “critical points;” places we know that are activity-based locations, like harvesting activity points, ports, docks, ramps, residence-based activity points (net mending and boat repair), processing, buying/selling of product. The

multiplier effect was mentioned in terms of dependency and incorporating that into our data needs. In addition to the many activities it was suggested that the links between the different activities could be just as important. Related to that point, was the comment about the historical nature of these communities and how we might take into consideration the transitions these communities have experienced. One suggestion was made to tap into that facet was to look at the declining community; develop a typology first and modify it during the research process.

A comment was made concerning the difference between a boating community and a fishing community. There are a lot of boaters in Florida that do not necessarily fish, therefore, try not to over estimate the impact of recreational boating as part of recreational fishing. The discussion then revolved around the use of secondary data on support industries to measure recreational fishing dependence. A related comment indicated that dependence may also be seasonal between other types of tourism and fishing, depending upon the region and season.

There was a suggestion that dependence might be important in defining the boundaries of a community. We might look at indices within a community--dissaggregate it into sectors or industries and look at gross receipts of various sectors or industries.

The product and its use.

As far as a useful product from this research, most individuals considered a typology of fishing communities to be one item they considered to have some utility. A list of fishing communities was another item of interest. Some individuals were especially interested in the process through which we attained this product as it would assist them in defining communities in their area or region. Also, the process that shows the various linkages between different sectors within a fishing community and various types of communities either geographically based or virtual. Several panel members hoped that this product would provide an accurate portrayal of fishing communities in Florida that would be helpful in the management context.

Ralph Cantral was elected chairperson with Marina Guedes as Vice-chair.

APPENDIX VI: Fishing Community Interview Schedule

Time Began _____

ID No. _____

Time Ended _____

Int. No. _____

Total Time _____

Village No. _____

A Survey of Florida Communities

Hello, my name is _____ and I am calling you from the Florida Survey Research Center at the University of Florida. In cooperation with the UF Department of Family, Youth and Community Services we are conducting a survey of the opinions of Florida residents regarding their communities. This is not a sales call and your answers are completely confidential. You may stop the interview at any time. May I speak to the person over 18 with the next birthday?

[IF INDIVIDUAL IS NOT AVAILABLE, PLEASE GET NAME AND ARRANGE A TIME TO CALL BACK. _____]

1. What is the name of the community where you live?	_____				
2. To what degree do you feel at home in the community where you live? Would you say that you feel very much at home, somewhat at home, or not at all at home?	Very 3	Somewhat 2	Not at all 1	DK 8	REF 9
3. How would you describe your level of involvement in organized activities in the area where you live? Would you say you are very involved, somewhat involved or not at all involved?	Very 3	Somewhat 2	Not at all 1	DK 8	REF 9

Next I will read some statements about (Community name) - please tell me whether you agree or disagree with each. **[DON'T READ DK]**

4.	Yes	No	DK	Ref
a. The economy of this area is dependent on commercial fishing.	2	1	8	9
b. Charter fishing makes a substantial contribution to the local economy	2	1	8	9
c. Fishery regulations are making it	2	1	8	9

difficult for people here to make a living				
d. Fishing is important to the culture of this area	2	1	8	9
e. The economy of this area is dependent on tourism	2	1	8	9
f. The economy of this area is dependent on recreational fishing (including charters)	2	1	8	9
g. Commercial fishing is an important draw for tourists to the community	2	1	8	9
h. Commercial fishing is an attractive part of the landscape	2	1	8	9
5. Does your community have any of the following?	Yes	No	DK	Ref
a. A monument to honor fisherman or the fishing industry	2	1	8	9
b. A central information or tourist center where visitors can receive information about the community	2	1	8	9
c. A special welcome sign, besides one provided by the state, to mark the border of the community	2	1	8	9
d. A central focus point, such as a town square, central park or commons area	2	1	8	9
e. A periodic celebration, fair, or other major local event held regularly	2	1	8	9
f. A community owned cemetery	2	1	8	9
g. A community band, team or performing group including at least some adults and not part of the school system	2	1	8	9
h. Any community wide projects over the past five years to improve the community in any way	2	1	8	9

i. A building, such as an auditorium or center, where the community holds occasional community wide meetings	2	1	8	9
k. A citizen's organization that tries to improve various aspects of community life	2	1	8	9
l. A local group or committee that tries to encourage community growth and development	2	1	8	9
m. A major event in the community's past that most residents know about, such as a flood or other disaster, or some major historical occurrence	2	1	8	9

Next we would like to ask you some questions about problems that may be facing (community name).

6. I am going to read some statements. For each of these, please tell me if you believe each is a serious problem, somewhat of a problem, or not a problem.	Serious	Somewhat	Not	DK	Ref
	3	2	1	8	9
a. The lack of economic growth	3	2	1	8	9
b. Increasing residential development	3	2	1	8	9
c. Loss of commercial dockage	3	2	1	8	9
d. Increasing land values	3	2	1	8	9
e. Increasing property taxes	3	2	1	8	9
f. Unemployment	3	2	1	8	9
g. Access to health care	3	2	1	8	9
h. Regulation of fisheries	3	2	1	8	9
i. Pollution of marine environment	3	2	1	8	9
k. Traffic congestion	3	2	1	8	9

l. Increasing newcomers	3	2	1	8	9
m. Growth of tourism	3	2	1	8	9
n. Access to quality education					
7. Would you say that _____ is very important, somewhat important, or not at all important for a person to be influential in your community?	Very	Somewhat	Not at all	DK	Ref
a. Length of residence	3	2	1	8	9
b. Family background	3	2	1	8	9
c. Occupation	3	2	1	8	9
d. Land ownership	3	2	1	8	9
e. Wealth	3	2	1	8	9
f. Personality	3	2	1	8	9
g. Community participation	3	2	1	8	9
h. Who you know	3	2	1	8	9
i. Political party affiliation	3	2	1	8	9
j. Holding an official position	3	2	1	8	9
k. Political opinions	3	2	1	8	9
l. Age	3	2	1	8	9
m. Gender	3	2	1	8	9
n. Level of education	3	2	1	8	9
o. Religious affiliation	3	2	1	8	9

Next we would like to ask you some questions about recreational and commercial fishing in your community.

8. What percentage of the residents of _____ do you believe are directly involved in commercial fishing or the seafood industry?	_____ %	DK 888 Ref 999
8a. What percentage of the residents of _____ do you believe are directly involved in recreational fishing?	_____ %	DK 888 Ref 999
8b. Please rank the following three areas in terms of their importance to the local economy:	Most imp.	Next
	Least	DK REF
Commerical fishing	3	2 1 8 9
Recreational fishing	3	2 1 8 9
Tourism	3	2 1 8 9

Next we would like to ask you some questions about the forms of transportation that you may use.

9. What is your primary form of transportation?	Own Automobile..... 1 Bus2 Bicycle3 Walk4 Taxi5 Friends/Family6 Motorcycle7 Scooter/Golf Cart8 Other9 Don't Know.....10 Refused11
10. In general, how far do you travel to	< mile 1-3 mi 4-6 mi. 7-10 mi >10 mi N/A
Buy clothes	5 4 3 2 1 6
Buy groceries	5 4 3 2 1 6
Receive medical services	5 4 3 2 1 6
Attend church	5 4 3 2 1 6

Have a car repaired	5	4	3	2	1	6
Go to the bank	5	4	3	2	1	6
	5	4	3	2	1	6
11. Are you familiar with the 1994 state constitutional referendum banning entanglement gear in state waters (Net Ban)?	<div>Yes No</div> <div>2 1</div>					
12. Would you strongly agree, agree, disagree or strongly disagree with the statement that this community was adversely affected by the Net Ban?	<div>SA A DA SD DK REF</div> <div>4 3 2 1 8 9</div>					

Finally, we have a few demographic questions.

13. Gender-Don't ask, just record	Male 2	Female 1
14. What year were you born?	_____	
15. What is the highest level of education you have completed?	8 th grade or less1 Some high school.....2 High school graduate.....3 Technical/Vocational.....4 Some college.....5 College graduate.....6 Graduate school/Pro.....7 Refused.....9	
16. Do you work inside or outside of your community?	Inside 2	Outside Ret/ 1 Don't Wk 3 DK 8 Ref 9
17. What is the length of time that you or your immediate family have been in the area?	_____ years	
18. What is your martial status?	Single.....1 Married.....2 Divorced.....3 Widow.....4 Refused.....9	
19. And just to make sure we have a representative sample, would you please tell me your race?	Black.....1 White.....2 Asian.....3 Other.....4 Refused.....9	

20. And would you say you are of Hispanic ancestry?	Yes 2 No 1 DK 8 Ref 9
21. What is your employment status?	Full-time.....1 (Go to Q22) Part-time.....2 (Go to Q22) Not employed/retired/disabled....3 (go to Q23) Student.....4 (go to Q23) Don't know/refused.....9 (go to Q23)
22. Which of the following categories best represents your occupation?	Agriculture.....1 Clerical2 Fishing3 Manufacturing.....4 Professional.....5 Retail.....6 Services.....7 Other8 Don't Know/Refused.....9
23. Which of the following best describes your living situation?	Own Home.....1 Rent Home.....2 Live with parents.....3 Other.....4 Don't know/refused.....9

Thank you for completing the survey. Have a pleasant evening (day).

APPENDIX VII: Key Informant Interview Schedule

Name:

Occupation:

Years lived in community:

Are you a member of any community organizations? (what organizations)
(If no, have you been?)

Are you, or anyone in your family, presently involved in the fishing industry?
(If no, has anyone been involved in the past?)

What do you think makes a community a 'fishing' community?

Do you consider this community a fishing community? Why or why not?

Was this historically a fishing community?

What, in your opinion, are some of the significant changes or milestones in this community's history?

How important is fishing (both commercial and recreational) to the local economy?

Is this community a fishing-dependent community?

Is this community more dependent upon recreational or commercial fishing?

Has this always been the case?

Are young people becoming involved in either the recreational or commercial fishing businesses?

Does the local public school system offer any technical training courses related to fishing occupations?

What are the most important sources of jobs and income in this community? (Service, fishing, tourism, manufacturing)

How would describe the present state of the local economy?

Thriving Stable Stagnant Depressed

Are there any celebrations related to the seafood industry (i.e., Fleet Blessing, Seafood Festival)? Is the fishing industry involved?

What will this community look like in the future?